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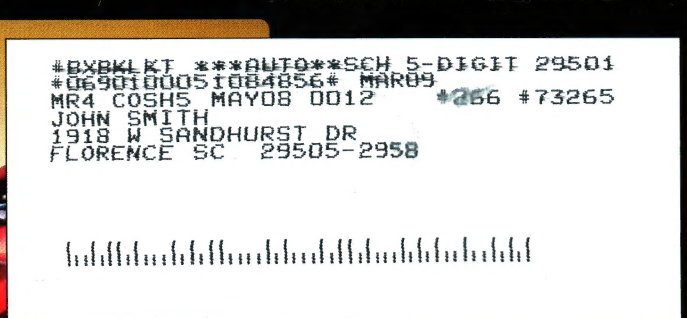

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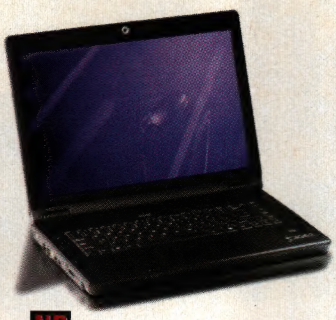

NP 2092

- 15.4" WXGA Active Matrix Display with Super Clear Glare type Screen
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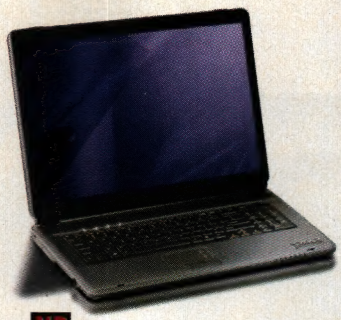

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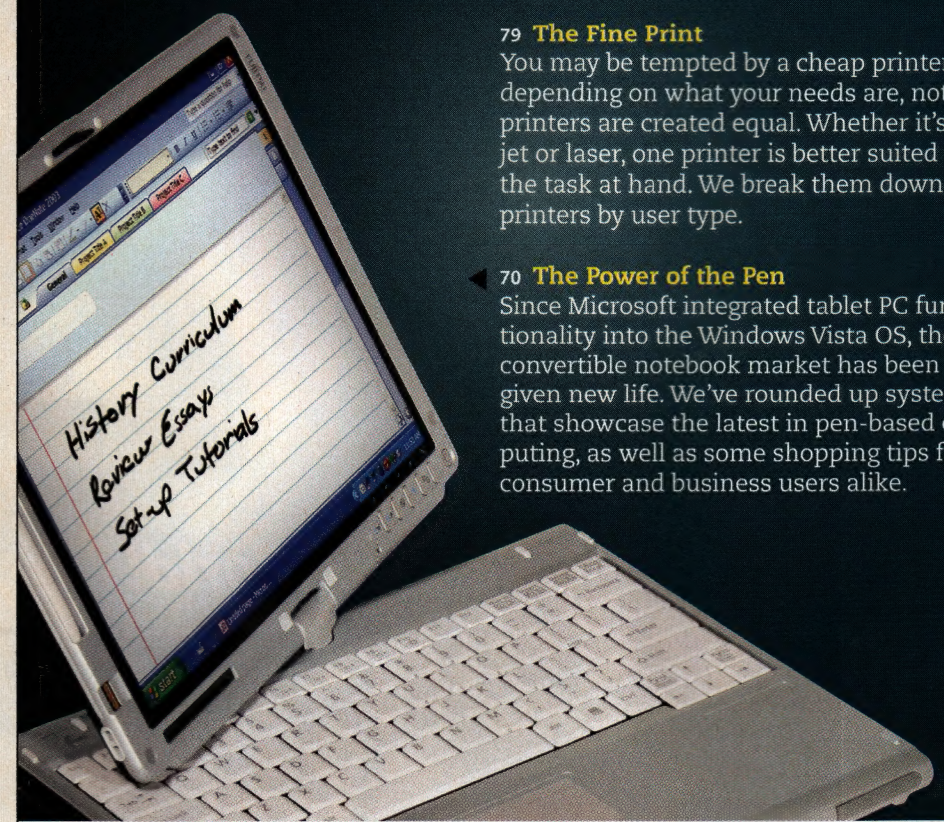
We've picked the best utilities to help improve the performance of your PC, whether it's fixing your Registry, cleaning your hard drive, or organizing your file libraries—and much, much more.



79 **The Fine Print**
You may be tempted by a cheap printer, but depending on what your needs are, not all printers are created equal. Whether it's ink-jet or laser, one printer is better suited for the task at hand. We break them down to printers by user type.

70 **The Power of the Pen**
Since Microsoft integrated tablet PC functionality into the Windows Vista OS, the convertible notebook market has been given new life. We've rounded up systems that showcase the latest in pen-based computing, as well as some shopping tips for consumer and business users alike.

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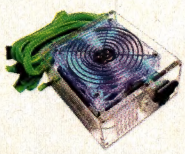

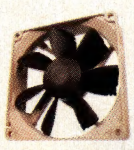

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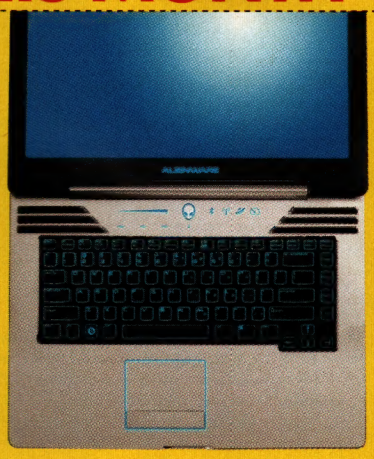
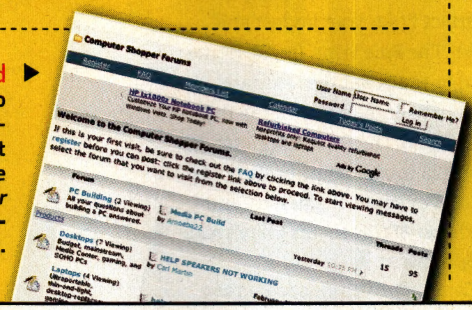


Gaming on the Go

Check out our review of the new Alienware Area-51 m15x. How does this system measure up to its desktop siblings in gaming performance? Go to **computershopper.com/reviews** for this and other new reviews.

Make Your Voice Heard

ComputerShopper.com has launched two new online forums. The first, for PC building, answers all of your questions about assembling a PC. The other is a lounge where you can chat with other *Computer Shopper* readers. Log on to **computershopper.com/forums** to check them out.



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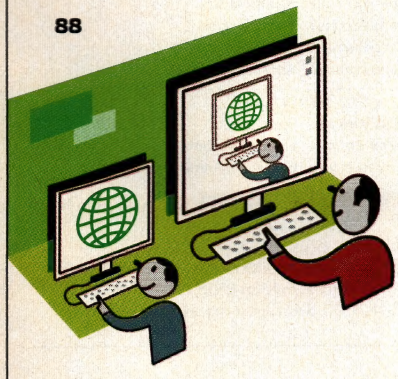
An Updated Vista

Microsoft hasn't yet set a specific roll-out date for Windows Vista Service Pack 1 (SP1), but it should be available by the time you read this. So this seemed like an excellent time to take a look at one of the software giant's most-anticipated releases since Windows Vista last year—and find out what it might do for you.

All the News That's Fit to Blog

Computer Shopper editors post candid takes on new tech products, services, and happenings daily. Bookmark our blog: **computershopper.com/shoptalk**



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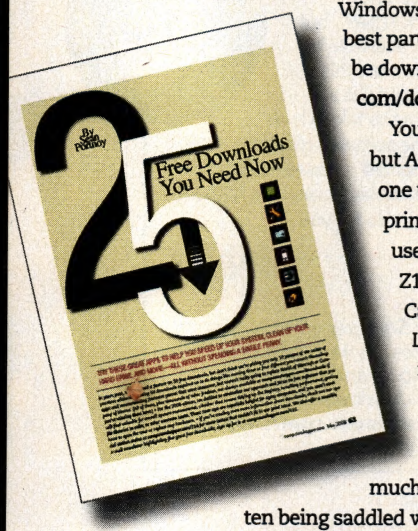
LETTER FROM THE EDITOR

ONCE YOU'VE HAD A PC for a certain amount of time, your system can get bogged down. Whether it's unwanted programs opening on startup, duplicate files strewn throughout your hard drive, or gaps in your Registry file caused by scattered data, the rigors of everyday use can slow your computer.

And let's face it: We all like freebies, and when they can speed up our boot times, tweak our PCs, or boost our productivity, we love them even more. For this month's issue, we've put together a list of our favorite free downloads in our "25 Free Downloads You Need Now" feature (p. 63), specifically focusing on software that will improve the overall performance of your system.

Want to retrieve a file you thought was lost and gone? Check out Recover Files. How about deleting duplicate files that have built up over the years on your hard drive? DoubleKiller will do the trick. And those pesky programs that load without your knowledge during boot-up in Windows? Quick Startup may be your answer. The best part about all these programs is that they can be downloaded in a flash at **computershopper.com/downloads**—and they don't cost a penny.



You may not be able to get a printer for free, but Associate Editor Les L. Shu helps you pick one that's the perfect fit for your budget and printing needs in "The Fine Print" (p. 79). Home users may want to check out the Lexmark Z1420. For the photo enthusiast, there's the Canon Pixma MX700. The Dell Multifunction Laser Printer 1125 might be the best choice for home-based or small businesses, and the Xerox Phaser 8560N seems tailor-made for larger businesses.

Tablet PCs may have once seemed too much trouble for the benefits they offered—often being saddled with weak specs—but the models in "The Power of the Pen" (p. 70) prove that, with Windows Vista's integrated tablet functionality and streamlined features, these latest models are becoming a viable alternative to conventional laptops. Although they're still marketed mostly to professionals who use custom pen-aware apps on the job, modern convertible notebooks are becoming more popular among mainstream buyers.

Those looking for another kind of laptop—one that could, say, fit in an envelope—may want to check out our review of the new Apple MacBook Air (p. 16). The design of this MacBook is truly groundbreaking, and there's no denying that it is the lightest notebook available, but we put it to the test to see how its performance stands up against other road-warrior ultraportables. Does Apple have another hit on its hands?

In addition to expanding some of our regular sections, we are introducing a new page this month. "Geek Speak," which makes its first appearance on the final page of the magazine, will help make some of the more complicated tech terms easier to swallow. "Buying Basics" (p. 95) has moved up in the magazine and will now encompass more products. And finally, we bring you the latest tech goodies in "New Products: Gear" (p. 14).

—Jonathan Rougeot, Managing Editor

We want to hear from you!
What do you think of this issue? Let us know: feedback@computershopper.com

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TRENDS

UPCOMING TECHNOLOGIES AND PRODUCTS

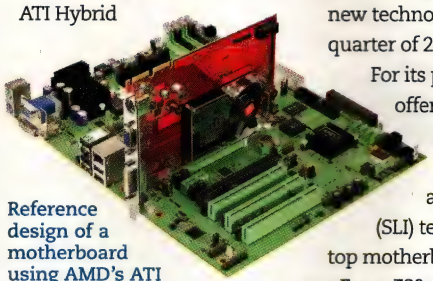
10 Polaroid Phases Out Its Instant-Film Business.
10 Web Applications Can Now Be Accessed Offline on your Phone, Thanks to a Mobilized Google Gears Platform.
10 Playing Videogames Isn't All About Fun and Games—It's a Competitive Sport.
12 New Products: PCs
14 New Products: Gear

AMD, nVidia Bring Hybrid Graphics to Desktops, Laptops

BUYING A NEW PC and want more than integrated graphics can deliver? You'll soon have new options that will boost your computer's graphics—while still giving you an energy-efficient system. Leading graphics-processing manufacturers AMD and nVidia are both introducing technologies that rely on "hybrid" graphics, which combine the use of an integrated graphics chipset with a discrete graphics card.

For less graphics-intensive applications, systems using either company's alternative will rely on integrated graphics. For games or other graphics-heavy programs, however, the integrated graphics chipset will combine its processing power with that of the discrete card for a big performance gain. Each company claims that its technology can reduce power and energy consumption.

AMD's desktop solution is based on its new 780G integrated chipset, which can be paired with a recent ATI Radeon graphics card via ATI Hybrid Graphics Technology. On the mobile front, ATI Hybrid Graphics Technology will work a little differently, with laptops relying on integrated graphics when they're using battery power and switching to discrete graphics from the new ATI Mobility Radeon HD 3000 series when plugged in.



Reference design of a motherboard using AMD's ATI Hybrid Graphic Technology

At press time, the first motherboards using the 780G chipset were just hitting the market. AMD says desktop and laptop makers will be introducing systems using the new technology in the second quarter of 2008.

For its part, nVidia is offering Hybrid SLI, basing it on the company's Scalable Link Interface (SLI) technology. Desktop motherboards using the nForce 780a SLI, nForce 750a SLI, nForce 730a, and GeForce 8200 chipsets will offer Hybrid SLI features when coupled with one or more GeForce 8400GS or GeForce 8500 GT graphics cards. Like AMD, nVidia says that desktops and laptops using Hybrid SLI will start appearing this quarter. —*Sean Portnoy*

STATS

How Much Paper Do We Waste?

8 million tons

The amount of paper Americans produced in 2004. By 2010, the number will reach an estimated 396 million tons worldwide.

90%

The amount of paper in the U.S. that contains no recycled material

1,410 sheets

The number of useless pages the average employee prints per year

6,744 miles

Enough office paper for a 10-foot-high wall from New York to Tokyo.

—*Sources: Citigroup, Wisconsin Department of Natural Resources, GreenPrint Technologies*

Toshiba Buries HD DVD in Format Graveyard

THE HISTORY of technology is filled with format wars. Memorable and not-so-memorable battles include VHS versus Betamax, Digital Audio Tape versus Digital Compact Cassette versus MiniDisc, LaserDisc versus Video High Density, and DVD Audio versus Super Audio CD. Add to the list the most recent format war between two high-definition optical-disc standards: Blu-ray and HD DVD. But after only two years on the market, the backers of HD DVD have called it quits. Toshiba announced in February that it would no longer manufacture products for the format, and other backers subsequently echoed that decision.

As in many of the conflicts, HD DVD did not lose out to Blu-ray because it was inferior. (Both, in fact, share a similar laser technology.) Instead, Toshiba cited customer confusion and reluctance to buy into either format, coupled with HD DVD backers defecting to the Blu-ray camp, as the reasons for HD DVD's ultimate demise.

Toshiba and the DVD Forum announced the development of HD DVD in 2002, and Toshiba released the first HD DVD player in Japan in March 2006. It beat Blu-ray to the market by about three months. HD DVD players began being sold in the United States in April of the same year, with prices between $500 and $800.

Because the prices for its players were lower than for Blu-ray players, HD DVD gradually rose in popularity until earlier this year, when Warner Bros., Wal-Mart, and Netflix announced they would no longer support HD DVD. It was a stunning victory for Blu-ray and the death knell for HD DVD.

Toshiba halted the shipment and sale of HD DVD machines by the end of March but the company says it will continue to support the product with replacement parts for another eight years. —*Jonathan Rougeot*

Polaroid Instant Cams Take Their Last Shots

IN TODAY'S WORLD, where almost every cell phone comes with a built-in camera, there is a new definition of instant photos. As a result, an instant-photo institution is looking to redefine itself.

Polaroid has announced that it will quit making instant film after it manufactures enough to last the company through 2009. The company stopped making instant cameras for consumers last year; it hasn't made cameras for commercial use since 2006. Polaroid's move will leave Japan's Fujifilm as the only major maker of instant film.

The company will now focus on ventures such as a portable printer for images from cell phones and Polaroid-branded digital cameras, televisions, and DVD players.

Polaroid produced its first instant camera in 1948. It moved to cartridge film in 1963 with its 100-series camera, which became a staple of professional photographers, who used it to take test photos, instantly checking lighting and composition before committing an image to negative.

The biggest boost to Polaroid's popularity and sales came with the chrome-plated-and-leather-bodied SX-70, introduced in 1972.

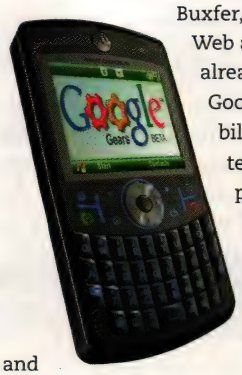
Polaroid has said it will license its film technology to other manufacturers who want to continue supplying enthusiasts with the medium after 2009. —*Jonathan Rougeot*

Google Gears Goes on the Move

GOOGLE GEARS will now be available to a select set of mobile devices.

According to a blog post from Google Mobile Team Product Manager Charles Wiles, the open-source beta software—which allows offline users access to Web applications normally accessible only online—will function in much the same way on mobile devices as it does on desktop PCs.

The mobile Google Gears is essentially a browser extension for creating rich Web applications, a fully functional port of Google Gears v0.2 that can be used to add offline capability into mobile Web programs. Google warns that the apps will be hindered by device limitations such as small screens and limited text input.



Google Gears will initially work on mobile devices running Microsoft Windows Mobile 5 and 6 as well as systems running Google's upcoming Android platform. It's not clear whether Google is developing a version that will work with smartphones that are not running Windows Mobile or Android (such as Apple's iPhone).

Wiles says that Zoho, a suite of Web-based productivity applications, and Buxfer, a personal finance Web application, have already integrated Google Gears for mobile devices. Such integration, for example, allows you to have your financial information at hand even if you lose your Internet connection.

Although the announcement has been greeted positively, some have raised security concerns, arguing that if your smartphone is lost or stolen, personal data such as financial information will be at risk. —*Serguei Servianov*

WWW

For more up-to-the-minute technology news, visit the *Computer Shopper* blog, ShopTalk: computershopper.com/shoptalk

The Latest Sports Craze: Videogaming

You may not think of videogaming as a sport, especially when it's compared to traditional athletic activities like baseball or football. No physical strength is involved, unless you consider clicking a mouse or punching a few keys a workout. But gaming is increasingly becoming a popular competitive sport, and you can throw any misconception out the window: It involves long hours of concentration and hand-eye coordination that can quickly take a toll on the body.

Throw in a large cash prize (over $1 million), and you can see why an event like the World Cyber Games (WCG) has grown into a global phenomenon that's sponsored by major companies like Samsung, Microsoft, and MTV. Last year, 1.5 million players for 74 countries competed in the WCG (which has now opened enrollment at worldcybergames.com/usa)—the highest figure since the event began in 2000. The U.S. team won the WCG championship in 2007 and will look to repeat its win at the 2008 finals this November in Cologne, Germany.

In addition to competitions involving PC titles such as Half-Life: Counter-Strike, FIFA Soccer 08, and WarCraft III, the event will include Xbox 360 tournaments for games like Halo 3 and Guitar Hero III. —*Les L. Shu*

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- Logitech Keyboard
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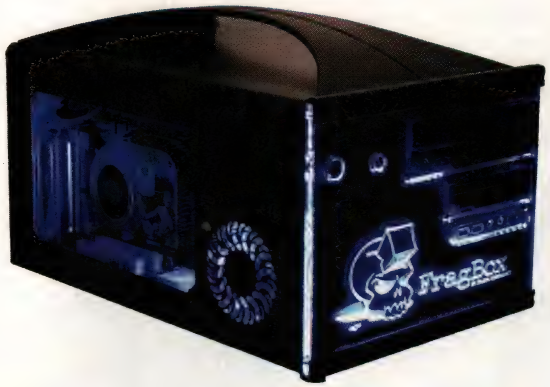
BY SERGUEI SERVIANOV

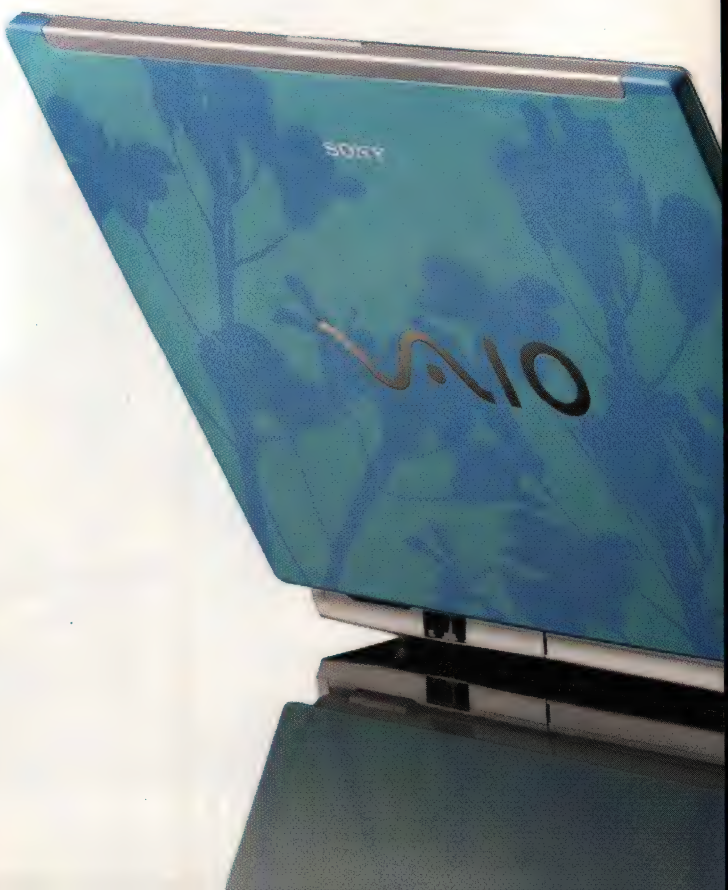
Budget traveler

Everex's new budget notebook, the gBook **VA1500V**, sports a 15.4-inch screen, runs a 1.5GHz VIA C7-M processor, and comes with 512MB of DDR2 memory, a 60GB hard drive, and a DVD-ROM/CD-RW combo optical drive. It weighs 5.3 pounds and has built-in 802.11b/g Wi-Fi, an Ethernet LAN port, and three USB ports. The notebook, like others in the company's Green series, runs a Linux-based operating system, which means you also get great open-source apps like OpenOffice.org 2.3, Firefox, Skype, GIMP, and more as part of the system's lean $399.99 price. *Everex, www.everex.com*



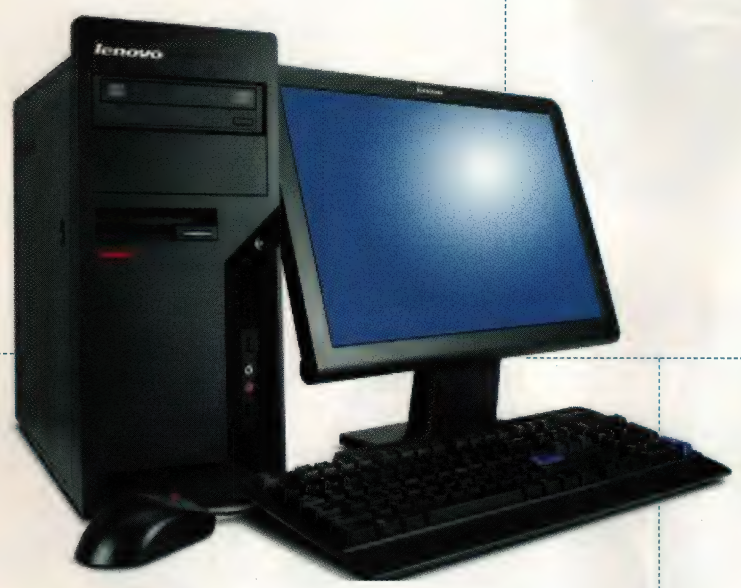
Wolfdale FTW!

If you hear "Counter-Terrorists Win" in your sleep from time to time, then Falcon Northwest's new **FragBox** configurations might just be right for your next Counter-Strike LAN party. This small-form-factor PC can hide some serious horsepower behind its backlit skull—including top-of-the-line Intel Wolfdale 45-nanometer processors, overclocking-ready Asus MicroATX motherboards, nVidia GeForce 8800 GT video cards, and up to 4GB of DDR2 RAM—and it comes pre-loaded with Vista Home Premium. Configurations start at $1,499. *Falcon Northwest, www.falcon-nw.com*



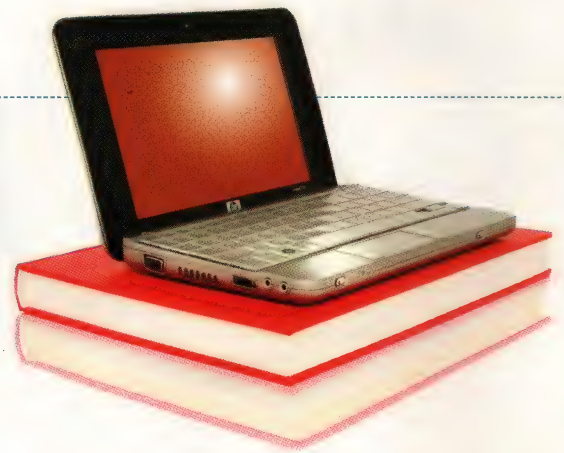
Thinking green

Lenovo's small-form-factor **ThinkCentre M57 and M57p Eco** desktops won't be remembered for setting any benchmarks, but their $699 starting price, energy efficiency, and quiet operation make them worth a second glance. They're the first desktops to be awarded Greenguard certification for low levels of chemical emissions, as well as earning EPEAT Gold and Energy Star 4.0 ratings. (The machines are also made with recycled consumer plastics.) Lenovo offers a choice of Intel Celeron or Core 2 Duo processors, up to 4GB of DDR2 RAM, and hard drives that go up to 320GB. *Lenovo, www.lenovo.com*



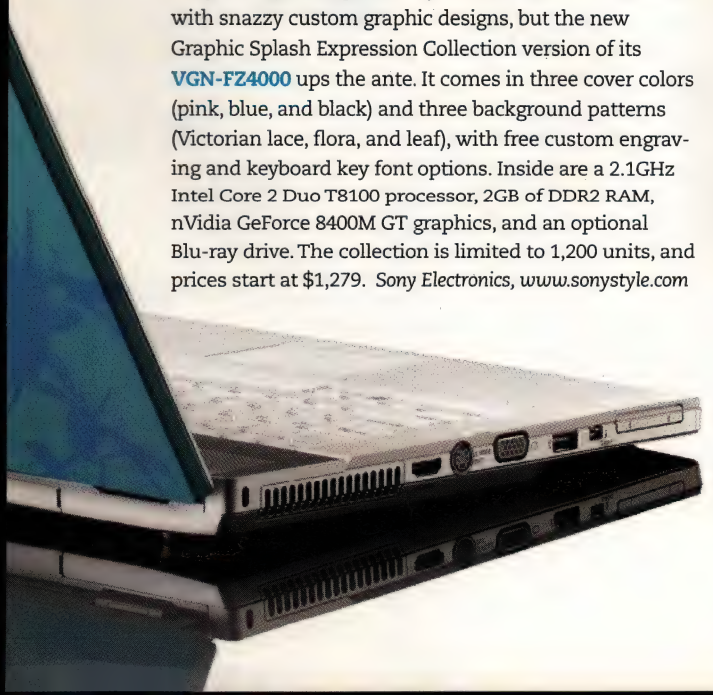
Gamer firepower

Gamers with an eye on performance—and playing crippling games like Crysis at high resolutions—might want to check out iBuypower's **Gamer Fire 580.** This desktop uses two dual-GPU ATI Radeon HD 3870 X2s to bring out its full, screaming CrossFireX capability. The system is also stocked with a quad-core AMD Phenom X4 9600 CPU, 2GB of DDR2 memory, and a 500GB hard drive. This particular configuration will set you back $1,945, though you can configure less (or more) at the company's Web site. *iBuypower, www.ibuypower.com*



Splash and substance

Sony has updated previously released VAIO notebooks with snazzy custom graphic designs, but the new Graphic Splash Expression Collection version of its **VGN-FZ4000** ups the ante. It comes in three cover colors (pink, blue, and black) and three background patterns (Victorian lace, flora, and leaf), with free custom engraving and keyboard key font options. Inside are a 2.1GHz Intel Core 2 Duo T8100 processor, 2GB of DDR2 RAM, nVidia GeForce 8400M GT graphics, and an optional Blu-ray drive. The collection is limited to 1,200 units, and prices start at $1,279. *Sony Electronics, www.sonystyle.com*



Mini notebooks are here to stay

Our hunch is that the recent success of Asus' Eee PC is driving the new market toward miniaturization, and HP is demonstrating its willingness to ride along with the **2133 Mini-Note PC.** The package might be pint-sized, but the system boasts a roomy keyboard, a glossy, scratch-resistant 8.9-inch screen, an optional integrated Webcam, and a choice of hard-disk or solid-state drives. The Mini-Note PC weighs in at just 2.6 pounds and is available with either Windows Vista or Linux as the OS. *Hewlett-Packard, www.hp.com*

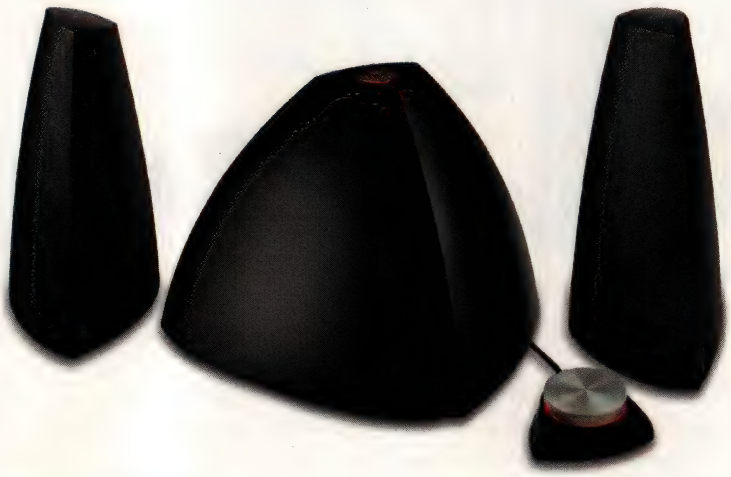
BY ERIN KANDEL

Clever driving companion

In order to offer drivers the best directions and most efficient route planning, the **TomTom GO 930 GPS** incorporates the company's new IQ Routes technology, which takes into account every factor that might influence travel time, including traffic lights, rotaries, steep slopes and speed bumps. The $499 device also comes with a 4.3-inch screen, 4GB of onboard memory, and pre-loaded maps of the U.S., Canada, and Europe.
TomTom, www.tomtom.com

Exotic sound

Boxy speakers don't exactly make a fashion statement, but the pyramid-shaped subwoofer and unique triangular satellites in Edifier's **E3350** 2.1 speaker set are sure to turn heads. Thankfully, these $99 speakers were designed to sound as good as they look: The subwoofer features a downward-firing driver, while the satellites are built from sound-enhancing, anti-resonant materials.
Edifier Enterprises Canada, www.edifier.ca



Little laser

Sick of sacrificing desk space to a beastly printer? Check out the $129.99 **LaserJet P1005.** HP's compact laser takes up about the same width as a 15.4-inch notebook, and it's no slowpoke, either: This black-and-white model can push out its first draft in under 8.5 seconds (from PowerSave mode) with an average speed of 14 pages per minute.
Hewlett-Packard, www.hp.com

Home theater-worthy hard drive

LaCie's **LaCinema Premier** is no ordinary backup drive. In addition to a serious amount of external storage for your Mac or Windows PC, the LaCinema—available in beefy 500GB ($249.99), 750GB ($349.99), and 1TB ($499.99) capacities—comes with integrated A/V outputs that let you connect it to a TV and enjoy your digital media files in the living room.
LaCie, www.lacie.com

A photog's best friend

Technically, Fujifilm's **FinePix S100FS** isn't a digital single-lens-reflex (dSLR) camera, but it certainly has the look and feel of a high-end dSLR—without the high price. Though this $799.95 camera doesn't use interchangeable lenses, discerning photographers should be pleased with its fixed Fujinon lens, which offers a powerful 14.3x zoom and manual zoom capability.
Fujifilm U.S.A., www.fujifilmusa.com

Intergalactic USB drive

Let the force be with you—or, at least, with your data. Mimoco's **Mimobot Star Wars Series 2** USB drives are designed to look like four characters from the famous sci-fi trilogy: Luke, Princess Leia, Han Solo, and Boba Fett. In addition to 1GB ($49.95), 2GB ($69.95), and 4GB ($109.95) of portable storage, these limited-edition designer drives come pre-loaded with icons, avatars, screensavers, and wallpapers. They also play sounds from the *Star Wars* movies when you insert or eject them from your computer. Mimoco, www.mimoco.com

Apple MacBook Air

Slender laptop excludes some features, ports

THE APPLE MACBOOK AIR is a fairly priced, decently powerful ultraportable with a killer design that will turn heads in any airport, coffeehouse, or library. Depending on your computing needs and priorities on the road, however, this notebook's missing features and meager port selection could be deal-breakers.

Clad in silver aluminum, the 3-pound Air is the thinnest we've seen—just 0.16 inches at its front edge. Open the notebook's slender lid and you're greeted with a gorgeous 1,280x800-resolution display that, thanks to its LED backlighting, is both slim and bright. Embedded in the silver bezel above the screen, you'll find an iSight Webcam and mic; below it, Apple included a full-size keyboard with backlit keys.

Second to its thinness, the Air's standout design feature is its excellent TrackPad. Measuring nearly 5 inches diagonally, the Air's pad incorporates three of Apple's signature "multi-touch" gestures, first seen on the iPhone.

EDITORS' RATING 7.9

0 BETTER ›› 10

PROS Amazingly thin aluminum case packs a 13.3-inch LED screen and full-size keyboard; extra-large TrackPad recognizes multi-touch gestures; Remote Disc function lets you access other optical drives; decent performance, battery life for an ultraportable

CONS Can't use Remote Disc to stream music, movies; only one USB port; lacks Ethernet jack, media card reader, optical drive; no option for WWAN radio; few upgrade options; battery is not user-replaceable

SPECS 1.6GHz Core 2 Duo; 2GB DDR2; 80GB hard drive; double-layer DVD±RW (external); 13.3-inch TFT; Mac OS X 10.5 (Leopard)

Apple, 800-692-7753
www.apple.com

Direct Price $1,928

As you might guess considering its chassis' size, the Air does not include a built-in optical drive; if watching DVDs on the road is a must, this system may not be the best buy. Our review unit came bundled with an external USB DVD burner (a $99 add-on), but more noteworthy is Apple's software-based solution, Remote Disc, which lets you use the optical drives of other PCs or Macs on the same network. It's a great solution for porting over files and installing applications, but unfortunately, you can't use Remote Disc to stream DVD movies or music CDs.

The MacBook Air's biggest shortcoming is connectivity. The notebook includes just three wired connections—one USB 2.0 port, a headphone jack, and a display port—all hidden beneath a small pull-down door. Though ultraportables rarely have many ports, jacks, or slots, we think Apple was hasty in confining nearly every conceivable accessory to a single USB port. What's more, though it comes with 802.11n Wi-Fi and Bluetooth 2.1, Apple did not equip the Air with wireless mobile broadband (WWAN).

Compared to other ultraportables, the MacBook Air is reasonably priced at its $1,799 baseline configuration, which includes a 1.6GHz Intel Core 2 Duo processor, 2GB of RAM, an 80GB hard drive, and Intel GMA X3100 integrated graphics. (Our review unit came to $1,928 with accessories.) We wish Apple offered more hardware configuration options, however, especially in the hard drive department: The only alternative to the 80GB drive is a $999 64GB solid-state drive.

As for performance, the Air delivers more than enough power for basic tasks like Web surfing, multimedia playback, and productivity chores.

The system's non-user-replaceable battery lasted a decent 2 hours and 49 minutes in our DVD rundown test; we also eked out just over 4 hours of everyday use. —*Erin Kandel*

What's the Deal?

Dubbed "the world's thinnest notebook," there's no doubt that Apple's MacBook Air is one great-looking piece of gear. Just make sure you can live with no optical drive, no WWAN, and few ports.

What it's for: This 3-pound notebook makes a great travel companion. Though it doesn't offer much gaming or graphics savvy—and you'll need an external optical drive to watch DVDs—it can handle basic computing tasks with ease.

Who it's for: Frequent travelers looking for a lightweight, fashion-forward portable they can take on the road.

What's included: 1.6GHz Core 2 Duo CPU; 2GB of RAM; 80GB hard drive; an external DVD burner; 13.3-inch LED screen; TrackPad with multi-touch gestures; Apple's Remote Disc solution and iLife '08 suite.

The bottom line: The slimmest ultraportable on the market, the MacBook Air will win many over with its gorgeous design. But its feature set won't satisfy every road warrior.

Asus EN9600GT

Great high-resolution gaming at a low price

EDITORS' RATING 9.0

0 BETTER >> 10

PROS Very fast for the price; HDMI converter included; can be used with another 9600 GT card in SLI mode

CONS No DirectX 10.1 or 3-Way SLI support

AsusTek Computer, 502-995-0883
usa.asus.com

Mfr. Est. Price $189

EDITORS' CHOICE

THE $189 ASUS EN9600GT is one of the first graphics cards to use nVidia's new GeForce 9600 GT chipset. In previous generations, midrange GeForce cards were best suited for gamers who didn't mind turning down the details or resolution in a game to get a smooth frame rate. The 9600 GT series resets those expectations, offering very good gaming performance with the details cranked up, even at moderate-to-high resolutions.

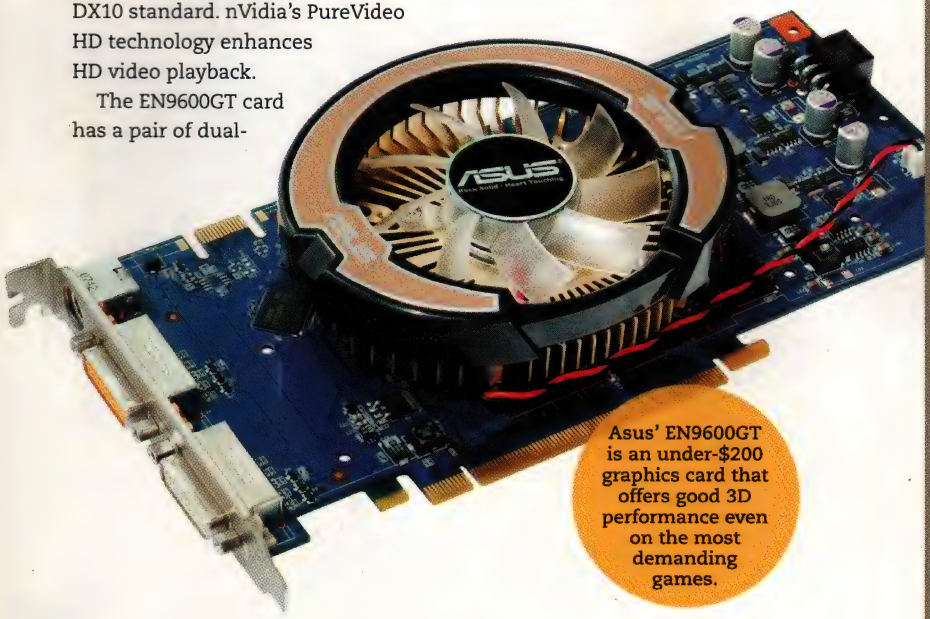
This single-slot PCI Express (PCIe) x16 card uses a six-pin PCIe power connector and supports PCIe 2.0, dual-card Scalable Link Interface (SLI) on compatible motherboards (but not 3-Way SLI), and High-Definition Content Protection (HDCP) for full-resolution output of Blu-ray, HD DVD, and other HD formats, but not DirectX 10.1 (DX10.1)—only the older DX10 standard. nVidia's PureVideo HD technology enhances HD video playback.

The EN9600GT card has a pair of dual-link DVI outputs, a component-video/S-Video connector, and includes a DVI-to-HDMI converter for connection to an HDTV. A small cable is included to connect the card to the digital audio connector on your motherboard, allowing the card to pass sound through the HDMI cable. The cooling fan is quiet enough to make the EN9600GT suitable for use in a living room PC.

The 9600 GT offers a serious performance boost over its 8600 GT predecessor, particularly at higher resolutions, in both DX9 and DX10 games. Its F.E.A.R. scores of 89 frames per second (fps) at 1,280x1,024 and 54fps at 1,920x1,200 are more than double the 45fps and 20fps that the 8600 GT turned in at those resolutions. The 9600 GT even manages a playable 33fps in F.E.A.R. on a 30-inch monitor running at 2,560x1,600.

In our DX10 tests, the EN9600GT tops the similarly priced ATI Radeon HD 3850, clocking 38fps in World in Conflict and 52fps in Company of Heroes, compared to 25fps and 42fps for the HD 3850. Upping the resolution to 1,920x1,200 makes the difference even more dramatic, with the EN9600GT turning in 16fps at Very High settings in World in Conflict and 25.6fps in Company of Heroes, compared to 9fps and 11.5fps for the HD 3850.

—Denny Atkin



Asus' EN9600GT is an under-$200 graphics card that offers good 3D performance even on the most demanding games.

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Sony VAIO VGC-LT29U

An all-in-one as beautiful as it is functional

IT'S THE RARE SYSTEM that passes through the *Computer Shopper* offices and attracts attention from everyone who sees it. The last time we can remember this happening was with the HP Blackbird 002, a gaming desktop of uncommonly unique (and heavy) construction. But if anything, the Sony VAIO VGC-LT29U we recently tested proved even more popular.

It's not hard to see why. With a glass frame and a silver speaker bar surrounding its 22-inch LCD, this $3,299 VAIO is the most flat-out beautiful all-in-one we've yet seen. This may ultimately be a desktop with heavy television pretensions, but unlike other hybrids we've seen and tested—the Gateway One and the Dell XPS One—the VAIO truly does everything possible to hide its computer lineage. Whereas those two all-in-ones were designed for desks or perhaps not-out-of-the-way tables, the VAIO is well and truly built for the living room. It has an integrated stand, but it's been designed for wall mounting, so that everyone will be oohing and aahing at your HDTV picture and taking advantage of its full entertainment-PC capabilities without ever having to put two and two together.

EDITORS' RATING 8.0

0 BETTER >> 10

PROS Sleek, attractive look; wall-mountable; built-in 802.11a/b/g/n wireless; plentiful storage space

CONS Expensive; fixed configuration; can't play high-definition movies at 1080p; performance good for an all-in-one, but average for price

SPECS Intel Mobile Core 2 Duo T9300 (2.5GHz); 4GB DDR2; one 1TB hard drive; Blu-ray burner; integrated 22-inch LCD; GeForce 8400M GT (256MB); Windows Vista Ultimate

Sony Electronics, 877-865-7669
www.sonystyle.com

Direct Price $3,299

And it's loaded with all the appropriate features for a system operating under those conditions: a 1TB hard drive for storing countless hours of recorded TV programs, movies, and music; a Blu-ray player/burner for playing high-def movie discs and plentiful archival storage; even Windows Vista Ultimate, to give you full Media Center and backup capabilities. The processor is an Intel Mobile Core 2 Duo T9300 running at 2.5GHz (better than average for an all-in-one), and 4GB of DDR2 memory is likewise very generous.

This all ensures that the VAIO is the best-functioning all-in-one PC we've tested. While it won't come close to competing with other desktops in its price range, it beat the Gateway One and the Dell XPS One in almost every one of our benchmark tests. Its one low point? Gaming. The VAIO's 256MB of GeForce 8400M GT graphics gave it a pokey 15.5 frames per second (fps) in our Company of Heroes test, placing it neck-and-neck with the Dell in the unplayable category (that machine scored 15.6fps), and behind the much more 3D-friendly Gateway (which pulled in 27.9fps).

That said, we don't expect most will mind missing out on that fun, since they probably have more leisurely activities in mind. With a bright, crisp display and a decent sound system, this system is great for watching video and listening to music—and that's all it needs. It does, however, have a variety of card readers (Memory Stick, SD, PC Card, and ExpressCard 34) positioned along the left edge, great for importing photos; and there's no shortage of USB ports for attaching other devices. Built-in 802.11a/b/g/n wireless is also a huge plus, and a wireless keyboard and mouse are also included.

We're a bit disappointed that the digital cable tuner with NTSC, ATSC, and CableCARDT Support is an external model, adding extra bulk to a slim and trim machine. And, unfortunately, the 22-inch display maxes out at a resolution of 1,680x1,050—too small to watch Blu-ray movies in full 1080p resolution. We asked Sony about this, and were told that the smaller screen size was intended to reduce the size of the system's footprint; that's reasonable, but factoring in the speaker and the glass frame, the system takes up about as much space as a 1080p-ready 24-inch display anyway.

If you're unhappy with any of the specs of the VAIO, you're out of luck: It's a fixed-configuration machine. So anyone who's more interested in customizing his or her computer experience will probably prefer the Gateway One or even the more-customizable iMac—still the overall leader in this particular field in terms of performance, adaptability, and price, although it lacks a Blu-ray drive and integrated TV tuner. But if you can settle for the components that Sony chooses, the VGC-LT29U could be one companion you won't mind hanging around your living room for years to come. —*Matthew Murray*

Cyberpower recommends Windows Vista™ Home Premium

AMD Smarter Choice

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Sony VAIO VGX-TP25E/B

No-compromises HD entertainment PC

THE ONE THING THAT STANDS OUT about Sony's VAIO VGX-TP25E/B entertainment PC is that it's stylish. Forget tower: This one is black, circular, and only 10.6 inches in diameter and 3.6 inches tall. As configured, it will set you back $2,999.

From an office productivity or Internet point of view, the TP25 is quite competent, thanks to a 2.1GHz Intel Core 2 Duo T8100 processor, a 500GB hard drive, and an integrated nVidia GeForce 8400M GT graphics processing unit (GPU) with 256MB of dedicated memory. It has the ability to share system memory to a total of 1,535MB of the 4GB installed.

EDITORS' RATING 7.8

0 BETTER ›› 10

PROS Stylish look; nice feature set

CONS Difficult to configure media center's digital television features

SPECS Intel Core 2 Duo T8100 (2.1GHz); 4GB DDR2; 500GB hard drive; Blu-ray reader/DVD±RW; no monitor; nVidia GeForce 8400M GT (256MB); Windows Vista Home Premium

Sony Electronics, 877-865-7669
www.sonystyle.com

Direct Price $2,999

You'll find four USB ports, an iLink (née FireWire) port, and memory card support (Memory Stick Pro, Memory Stick Duo, Secure Digital)—more than enough to keep you happy. (This computer is not intended for gaming.) Along with its ability to output VGA, the TP25 also features an HDMI connector (and even includes a cable).

Our review unit arrived with two external ATI TV Wonder Digital Cable Tuners that allow you to watch and record two different programs at the same time. The tuners are CableCard compatible. Even without a CableCard, though, you should be able to receive digital TV signals if your provider delivers clear Quadrature Amplitude Modulation (QAM), a "free" digital piggyback arrangement that arrives over the same cable line as its analog signals.

We had problems configuring Windows Vista Home Premium's Media Center for digital television, but the TP25 does include a Blu-ray/DVD player for HD playback. Then again, if you've got the money to buy this PC, you also probably have the know-how to make it work—or the ability to hire someone who can. *—Bill O'Brien*

HP Pavilion Slimline S3330f PC

Excellent media components in a stylish chassis

EDITORS' CHOICE

THE LATEST ITERATION of HP's super-compact Pavilion Slimline desktop PC is sleek, loaded with entertainment features, and at $949, is much more affordable than typical entertainment PCs. With this system, what you see is what you get, though; upgrade options are few and far between.

Inside the 13.9x4.2x10.9-inch, matte-black case (which sports silver trim and a piano-black front bezel) are a 2.8GHz AMD Athlon 64 X2 5400+ processor, 2GB of DDR2 RAM, and a 256MB nVidia GeForce 8500 GT card with DVI and HDMI outputs. The ViXS PureTV card gives the S3330f personal video recorder, or PVR, potential with the Vista Home Premium OS. The spacious 500GB hard drive provides more than enough storage for massive multimedia files such as recorded television, music, and photos.

EDITORS' RATING 8.5

0 BETTER ›› 10

PROS Compact chassis; wireless keyboard and mouse; high-definition optical drive

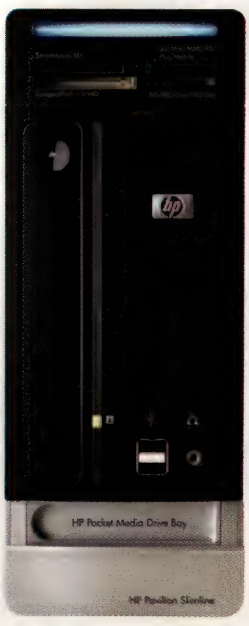
CONS Average performance; limited expandability

SPECS AMD Athlon 64 X2 5400+; 2GB DDR2; 500GB hard drive; Blu-ray/HD DVD reader/DVD±RW; no monitor; Windows Vista Home Premium

Hewlett-Packard, 877-203-6108
www.hp.com

Mfr. Est. Price $949.99

Also onboard are a 15-in-1 media card reader; an optical drive that will play and record to CD and DVD media, as well as play (but not burn) Blu-ray and HD DVD discs; and a drive bay for use with HP's optional Pocket Media Drive. 802.11b/g wireless is also included, as are a wireless keyboard and mouse, and a Media Center remote and USB receiver. As is usually the case with space-saving PCs, there's no room for internal expansion; both PCI slots are occupied, as are the two memory slots. Replacing the hard drive and graphics card are about as far as you can go with this system.



The TV tuner delivered good results, but overall multimedia and basic productivity performance was only average. (High-resolution gaming is out of the question.) Still, despite its sub-$1,000 price tag, the top-shelf desktop entertainment components make this little box hard to beat. *—John R. Delaney*

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PLANTRONICS

Dell XPS 630

Outstanding midrange gaming, with a price to match

IT WAS JUST A MATTER OF TIME before Dell jumped on the trend toward mainstream gaming machines—and its first effort is a winner. The XPS 630 is the best example we've yet seen of an everyday, affordable desktop that also excels at gaming, making you feel like you're getting more than your money's worth.

At $1,269, the XPS 630 costs a little more than Gateway's FX7020 and Cyberpower's Gamer Ultra CF 3870—but it noticeably outpaced both in terms of performance. Powering the XPS 630 are a 2.66GHz Intel Core 2 Duo E8200 processor, 2GB of RAM, and the nVidia GeForce 8800 GT graphics card—the secret weapon of most mainstream gaming machines. Rounding out the offerings, you get a 500GB hard drive, double-layer 16x DVD±RW optical drive, 19-in-1 media-card reader, and Windows Vista Home Premium.

The XPS 630 also offers an unusually sexy trapezoidal chassis (with a tool-free interior) in either black or red, and it's highly customizable, from security software (a 15-month McAfee subscription is an option) to upgradability (dual-card graphics, Intel Core 2 Extreme processors, Blu-ray drives, and factory overclocking are available).

The XPS 630 delivered some impressive scores in our gaming benchmarks, starting with a more-than-solid 10,487 in Futuremark's 3DMark06 at 1,280x1,024 resolution, and adding handsome ratings of 8,883 at 1,600x1,200 and 6,338 at 2,560x1,600. It also did well in our other DirectX 9 (DX9) gaming tests, but bombed in DX10 games like World in Conflict and Call of Juarez at the highest resolutions. This system is great for novices, but not ideal for all-out performance freaks. —*Matthew Murray*

EDITORS' RATING 8.0

0 BETTER ›› 10

PROS Good gaming performance for the price; lots of expansion options; attractive case design

CONS Low DX10 frame rates at highest resolutions

SPECS Intel Core 2 Duo E8200 (2.66GHz); 2GB DDR2; 500GB hard drive; DVD±RW; no monitor; nVidia GeForce 8800 GT (512MB); Windows Vista Home Premium

Dell, 800-915-3355
www.dell.com

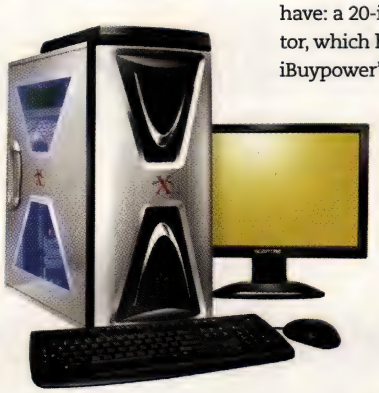
Direct Price $1,269

iBuypower Gamer Mage 855

Capable mainstream gaming box boasts a killer graphics card

CUTTING-EDGE COMPONENTS don't always guarantee powerhouse performance. If they did, its 1GB ATI Radeon HD 3870 X2 graphics card would make iBuypower's new Gamer Mage 855 a triumphant must-have. But that innovative dual-graphics-processing-unit (GPU) card isn't enough to propel this $1,499 machine to the very top of the gaming-benchmark charts.

In our tests, the Gamer Mage 855 bested the $1,269 Dell XPS 630 (see above) and the $1,099 Gateway FX7020 in Futuremark's DirectX 9 (DX9) 3DMark06, just beating them at 1,280x1,024 resolution (showing a score of 11,422), and pulling ahead at 1,600x1,200 (10,902) and 2,560x1,600 (9,596). The desktop also attained 61.4 frames per second (fps) in the DX9 Company of Heroes test at 2,560x1,600, but never topped either system in other tests.



Components are more or less equivalent to those in the Dell machine, and almost exactly the same as those in the Gateway: an AMD Phenom X4 9600 CPU; 3GB of RAM; a double-layer DVD±RW drive (though the Gamer Mage 855 also includes a second DVD-ROM drive); a 500GB hard drive; a 12-in-1 card reader; and Windows Vista Home Premium.

The Gamer Mage 855 did, however, come with one significant item the Dell and Gateway desktops didn't have: a 20-inch LCD monitor, which helps tip things iBuypower's way on this otherwise very level playing field.

Otherwise, the Gamer Mage 855 isn't much to write home about, though it is a solid enough gaming system if your needs are modest. If you're willing and able to spend more money for stronger performance, you're probably better off buying your way into the $2,000 range and beyond; at the lower price levels, frame rates are likely to be limited regardless of which graphics card you're using. —M.M.

EDITORS' RATING 7.5

0 BETTER ›› 10

PROS Attractive case; 20-inch monitor included

CONS Less-expensive machines offer better gaming performance

SPECS AMD Phenom X4 9600 (2.3GHz); 3GB DDR2; 500GB hard drive; 20x DVD±RW; DVD-ROM; 20.1-inch LCD; ATI Radeon HD 3870 X2 (1GB); Windows Vista Home Premium

iBuypower, 888-462-3899
www.ibuypower.com

Direct Price $1,499

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Toshiba Qosmio G45-AV690

Media-centric notebook is best in its class

WITH THE QOSMIO G45-AV690, Toshiba has added a faster processor and digital-cable capabilities to its top-of-the-line multimedia-notebook bundle. At $3,199, it's definitely pricey, but as the hub of your digital existence, it doesn't get much better than this.

Like other desktop-replacement portables, the 10.6-pound Qosmio G45-AV690 is heavy, and its 1.5 hours of battery life means you'll need to stay close to an AC outlet. But it's well worth the trouble. The notebook's bright 17-inch screen is eye-popping in its clarity, delivering full 1080p HD (1,920x1,200) resolution from movies played on its high-definition optical drive, which can both burn and read HD DVD discs. The G45-AV690 also has an HDMI port for hooking up a big-screen TV, as well as a killer sound system, complete with a bottom-firing subwoofer.

EDITORS' RATING 8.7

0 BETTER ›› 10

PROS Full 1080p HD screen; HD DVD burner; impressive sound system; very good performance; digital cable-TV tuner

CONS TV tuner requires external power supply, CableCard, and your cable company's help setting it up; expensive; merely adequate for 3D gaming

SPECS 2.5GHz Intel Core 2 Duo T9300; 3GB DDR2; dual 160GB hard drives; HD DVD burner/DVD±RW; 17-inch TFT; Windows Vista Ultimate

Toshiba America, 800-316-0920
www.toshibadirect.com

Direct Price $3,199

While analog-cable/over-the-air (OTA) HD tuners are the norm, the G45-AV690 comes with an ATI TV Wonder Digital Cable Tuner, a CableCard unit that lets you tune in digital-cable service, including HD and premium channels above the reach of an analog tuner. It's worth noting, though, that the ATI unit requires external power, as well as a compatible CableCard and a service call to your cable company to get it working.

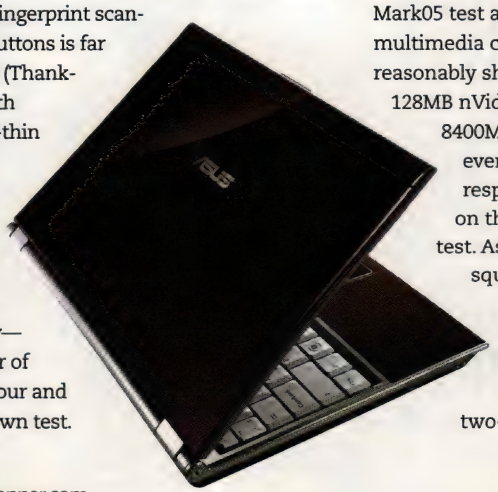
For more mundane roles, like serving as a PC, the G45-AV690 is well-equipped. Its 2.5GHz Core 2 Duo T9300 Penryn CPU, 1GB of Intel Turbo Memory, and 3GB of system RAM make quick work of everyday tasks. As for gaming, the notebook's 512MB nVidia GeForce 8600M GT should satisfy the occasional player, but serious gamers will want a system with more robust graphics. *—Jamie Bsales*

Asus U6S

Stylish ultraportable has too many flaws

THOUGH SLIM AND STYLISH ENOUGH to impress in the boardroom, the $1,799 Asus U6S disappoints on the road.

Weighing just under 4 pounds, the U6S pushes the definition of "ultraportable" to the limit. Though Asus gets points for trying to make the U6S seem luxurious with its glossy brown lid and matching leather palm rest, the system suffers from a few usability issues, starting with its stiff touch-pad buttons and lack of a scroll strip. We also found that the fingerprint scanner embedded between the buttons is far too easy to swipe by accident. (Thankfully, Asus included a Bluetooth mouse.) The notebook's razor-thin 12.1-inch LED-backlit screen produces bright, colorful images, though it doesn't quite live up to the company's promise of ultra-low power consumption. Indeed, the notebook's six-cell battery—which protrudes from the rear of the notebook—lasted just 1 hour and 19 minutes in our DVD-rundown test.



Asus managed to cram some great hardware into the U6S. Powered by a 2.2GHz Core 2 Duo T7500 and 2GB of RAM, the notebook scored an impressive 4,256 on Futuremark's PCMark05 test and handled multimedia chores in reasonably short order. Its 128MB nVidia GeForce 8400M graphics card even turned in a respectable 1,027 on the 3DMark06 test. Asus also squeezed in an impressive number of ports onto the U6S, including one for HDMI, though we wish there was an option for wireless broadband.

On the plus side, Asus backs the U6S with a two-year warranty. *—Rick Broida*

EDITORS' RATING 6.0

0 BETTER ›› 10

PROS Stylish brown lid and matching leather palm rest; ultrabright LED screen; solid performance; HDMI port; Bluetooth mouse included; generous warranty

CONS On the heavy side for an ultraportable; no integrated broadband modem; poor battery life; battery protrudes awkwardly from the rear

SPECS 2.2GHz Core 2 Duo T7500; 2GB DDR2; 160GB hard drive; DVD±RW; 12.1-inch TFT; Windows Vista Business

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usa.asus.com

Mfr. Est. Price $1,799

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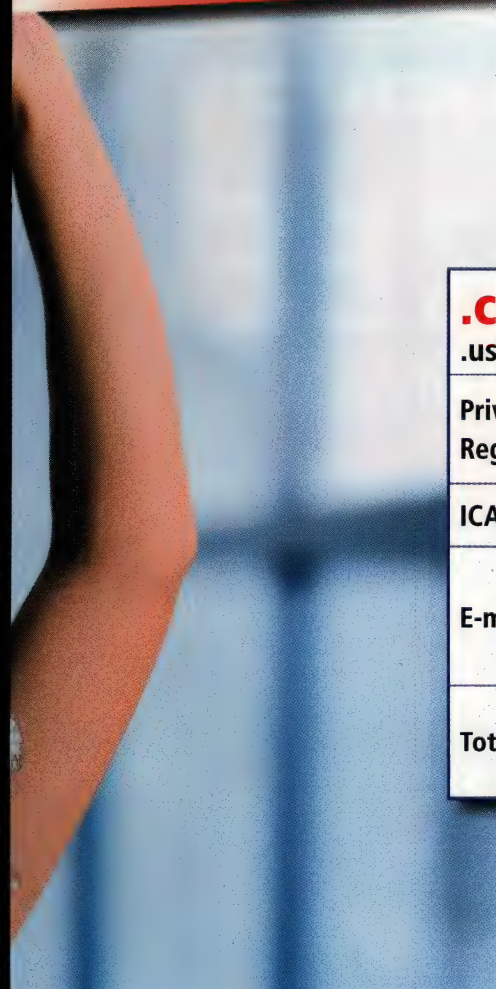

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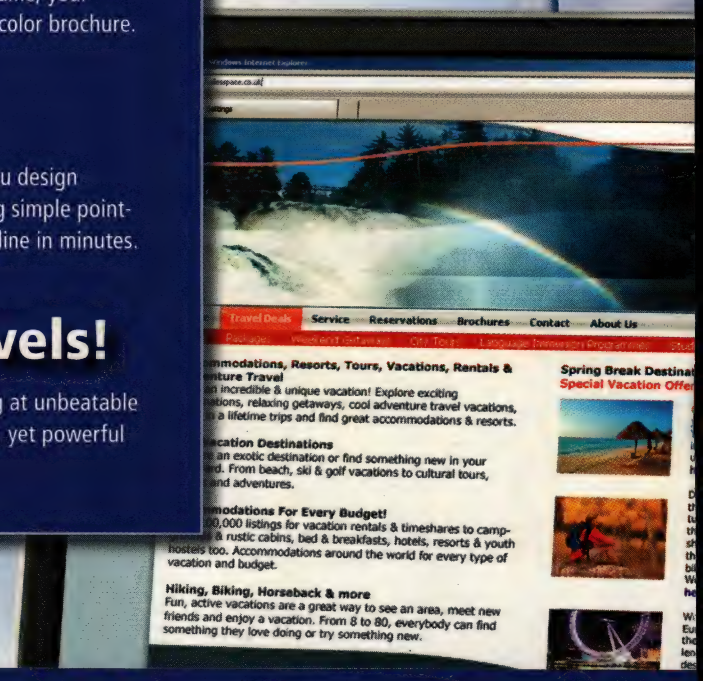
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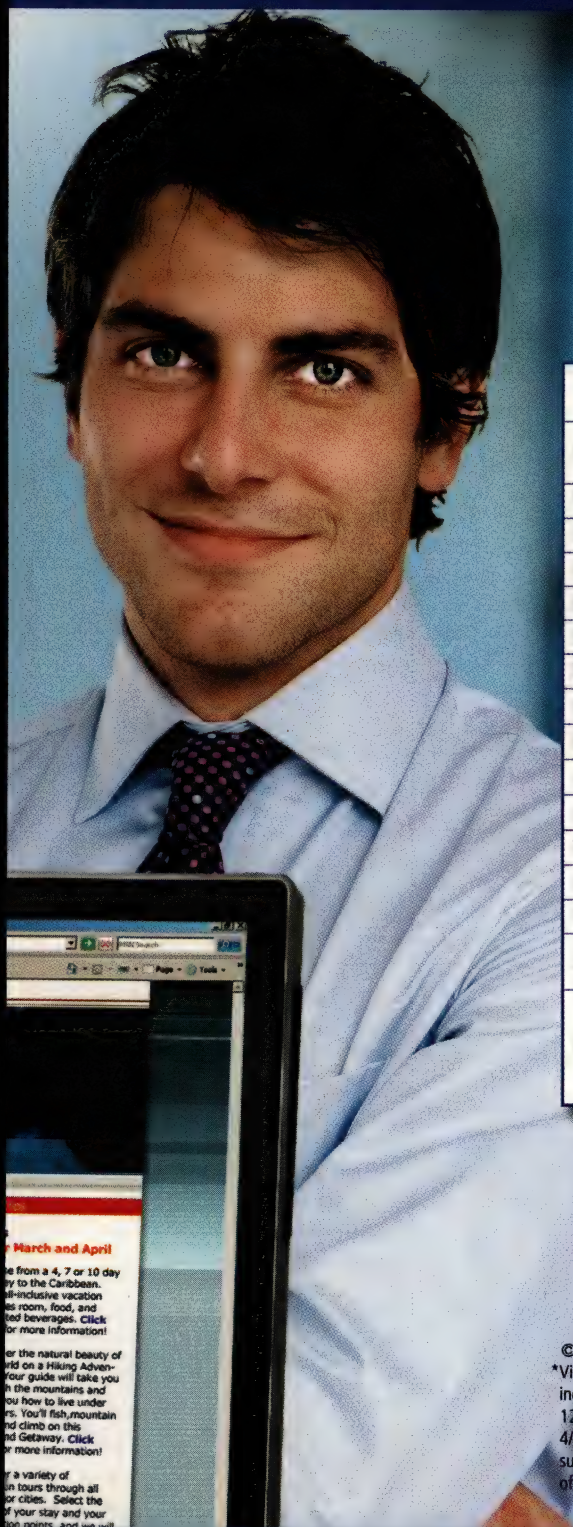

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Acer Extensa 4620-6194

Budget business laptop is a so-so performer

THE $729 ACER EXTENSA 4260-6194 provides adequate performance for a budget-priced, business-minded machine, but don't expect to get more than what you pay for.

Like most business laptops, the Extensa 4260 is a clunky affair, with its boxy case and bland, gray color scheme. Still, this 5.3-pound thin-and-light isn't terribly heavy, and its gorgeous 14.1-inch, 1,280x800-resolution LCD is sharp with excellent viewing angles. One caveat: The black bezel bordering the screen is too thick for our tastes.

EDITORS' RATING 6.0

0 BETTER ›› 10

PROS Affordable price tag; nice-looking display; plentiful connectivity options

CONS Lackluster performance; bland design; cramped touch pad; no ExpressCard slot

SPECS 1.66GHz Core 2 Duo T5450; 1GB DDR2; 120GB hard drive; DVD±RW; 14.1-inch TFT; Windows XP Professional

Acer, 800-733-2237
www.acer.com/us

Mfr. Est. Price $729

The Extensa 4260 features Acer's signature ergonomic keyboard. It's bouncy to type on, but quiet and responsive, as are the touch pad's buttons. Between those buttons, you'll also find a four-way scroll button. We found it particularly helpful when scrolling through long Web pages or documents. The touch pad itself, however, is a bit on the cramped side. Connectivity-wise, the machine offers a decent selection for a business thin-and-light, including four USB ports, 802.11a/b/g Wi-Fi, and Bluetooth, though it lacks an ExpressCard slot.

With its 1.66GHz Core 2 Duo T5450 processor, 1GB of RAM (expandable to 2GB) and integrated Intel GMA X3100 graphics, the Extensa 4260 is a bit underpowered by today's standards. Its budget leanings showed during our benchmark tests. The notebook managed a score of 2,961 on Futuremark's PCMark05 productivity test—a tad lower than what we saw from other budget business laptops we tested recently, but still suitable for office tasks. Its underwhelming multimedia performance, however, proved that power users and even casual gamers should steer clear. On our battery-drain test, the Extensa 4260 held on for 2 hours and 15 minutes, which is about average for a system of this size. *—Louis Ramirez*

NVS Carbon

Customizable laptop costs more than most

EDITORS' RATING 7.0

0 BETTER ›› 10

PROS Fully customizable; custom paint job for lid included; compact; good battery life

CONS Off-the-shelf notebook with same specs would cost hundreds less

SPECS 1.8GHz Core 2 Duo T7100; 2GB DDR2; 120GB hard drive; DVD±RW; 12.1-inch TFT; Windows Vista Home Basic

NVSpc, 877-686-8772
www.nvspc.com

Direct Price $1,838

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NVSpc outfitted our machine with a 1.8GHz Core 2 Duo T7100 CPU, 2GB of RAM, 1GB of Intel Turbo Memory, integrated Intel GMA X3100 graphics, a DVD burner, a 120GB hard drive, Bluetooth, and 802.11b/g/n wireless. With the custom, hand-painted *Computer Shopper* logo, the total came to $1,838, which is hundreds more than a similarly configured system from a big-name PC maker would cost. That's some expensive paint.

The Carbon is a solid, if somewhat basic, 4.5-pound thin-and-light laptop with a 12.1-inch wide-screen display. We appreciate the small size, but other laptops deliver a 13.3-inch screen and weigh the same or less. The notebook's keyboard is comfortable, though the palm rest is made of a cheap-feeling plastic. Sporting a barely audible fan and a sharp, vivid screen, the Carbon is very pleasant to use. The included eight-cell battery delivered nearly 3 hours of DVD playback time, which is good for this class.

Performance was fine, if unremarkable: The Carbon scored in line with similarly equipped notebooks. Given the included Intel Turbo Memory, however, we were surprised at the system's slow boot-up time of nearly 2 minutes. *—Jamie Bsales*

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Sony BDU-X10S

Cheap Blu-ray reader for your PC

NOW THAT HD DVD has thrown in the towel, consumers can feel confident that their Blu-ray drives won't suffer the same fate as Betamax players did back in the 1980s. Enter Sony's BDU-X10S Blu-ray Disc-ROM (BD-ROM) drive, a reasonably priced ($199.99) internal drive that lets you watch high-definition movies on your PC. Unfortunately, that's about all you can do, since this drive does not record Blu-ray or DVD media. Still it's a good choice as a second drive for a multimedia or home-theater PC build.

EDITORS' RATING 7.0

0 BETTER ›› 10

PROS Easy to install; good video playback; supports three media types

CONS Only reads Blu-ray at 2x; doesn't record Blu-ray or DVD media

Sony Electronics, 877-865-7669
www.sonystyle.com

Direct Price $199.99

The Serial ATA (SATA) drive requires at least a 3.4GHz Pentium D processor to operate correctly, and Sony recommends a 2.4GHz Core Duo or higher for optimal performance. Other requirements include at least 512MB of memory, a High-Bandwidth Digital Content Protection (HDCP)-compliant display to view copyright-protected Blu-ray content, a 256MB graphics engine with HDCP support, and any version of Windows Vista or Windows XP with SP2. The BDU-X10S reads CD media at 24x and DVD media at 8x, but Blu-ray media is still limited to 2x read speeds.

Once you've cracked the case on your PC, installation is a snap. The BDU-X10S can be installed vertically or horizontally depending on your chassis configuration. Simply slide the drive into an open bay, attach the SATA cable and SATA power cable, secure the drive with screws, and button up the case. It took less than five minutes to install the drive on a Windows Vista Home Premium system, and Windows recognized the device immediately. The included Cyberlink PowerDVD 7.3 software showed that HD content looked awesome via HDMI cable on our HDTV. *—John R. Delaney*

In Win Allure

A minitower PC case—with feminine flair

WHAT COULD SHOW how much you *really* care better than a crystal-encrusted desktop-PC case adorned with flowers, custom-built for your significant other? If your answer is "Nothing!" then you need to get In Win's Allure, and get building.

The striking exterior—off-white, with a pearly sheen, matte lavender flowers, and studded with approximately 65 tiny Swarovski crystals—is the Allure's primary selling point. The top half of the front face comprises a door that hides the two 5.25-inch and two 3.5-inch external drive bays, though the automatic door action was choppy rather than smooth.

EDITORS' RATING 7.5

0 BETTER ›› 10

PROS Unique floral-and-crystal design; effective cable-hiding arrangement; pop-up door hides optical drives; integrated motherboard mounts

CONS Slightly pricey; balky front door; no hard drive intake fan

In Win Development, 909-348-0588
www.in-win.us

Mfr. Est. Price $110

The interior design of this MicroATX minitower is both staid and innovative. To speed motherboard installation, In Win integrated the standoffs into the case bottom as small mounds of metal; the expansion-slot backplane accepts up to four PCI cards and is equipped with a plastic locking clip that secures or releases all cards, though screw-mounting is also an option.

Optical drives fix into their bays with the help of yellow-plastic plungers; the plungers insert rods into the drive's screw holes to hold it in place. The hard drive cage below, which can hold two drives, swivels outward for easy access, though you have to screw in your drives and there's no space to mount an intake fan in front of the drives.

The front-panel connectivity mix is mostly standard: Two USB 2.0, one FireWire, and headphone and mic jacks—but no reset button—accompany the power switch. There is, however, a built-in infrared receiver that works with third-party Media Center remote controls.

At around $110, you're paying a premium for the finish and crystals, but it's impossible to put a price on love. *—John A. Burek*

A new option for working directly on screen

STARTING AT $999

Cintiq 12WX
interactive pen display

Thin and light, the new Cintiq 12WX gives you the flexibility to work directly on screen the way you want. Rotate the 12.1" display when working flat on your desktop, stand it upright or even use it on your lap.

At just 4.4 pounds, the Cintiq 12WX combines a wide-format LCD monitor with Wacom's patented, professional pen technology to give you the perfect companion for your Mac or PC. Add pen-on-screen control to any computer and even use it to control other displays.

The Cintiq 12WX delivers a highly-sensitive pen-on-screen experience so you can work directly on your images and applications in the most natural way possible.

wacom

For more information, visit:
www.Cintiq.com/CSM

CMS ABS-Secure Encrypted Backup System

Portable drive offers security, but it's slow

THE $245 ABS-SECURE ENCRYPTED BACKUP SYSTEM from CMS uses on-the-fly 256-bit encryption to protect your data from being accessed by anyone who doesn't have the proper password, plus it's small enough to take with you on the road. Still, we wish it offered better read/write performance.

The 160GB drive's encryption feature, which is ready to use right out of the box, may also account for the drive's high price. Encryption is provided by the CE-Secure software, which uses the popular 256-bit Advanced Encryption Standard (AES) algorithm technology to safeguard your data. Because encryption (and decryption) occurs automatically during file transfers, you don't have to worry about enabling encryption each time you perform a backup.

EDITORS' RATING 6.8

0 BETTER ›› 10

PROS Easy to set up; simplified advanced data encryption; very portable

CONS Slow read/write speeds; pricey; requires Microsoft framework .Net 2.0 on host PC to unlock drive

CMS Products, 800-327-5773
www.cmsproducts.com

Direct Price $245

The drive and software are easy enough to use, but you have to install the CE-Secure software on the host machine—which, in turn, must have Microsoft Framework .Net 2.0 installed—to unlock the drive. If not, Windows will recognize the drive only as a USB device. When the drive is connected via the USB port, you are asked to type in a pass phrase, at which point the drive is mounted and becomes accessible through Windows.

As for the transfer speed, it isn't blazing fast. Using the drag-and-drop method, the drive required 14 minutes and 40 seconds to read a 10GB folder and 12 minutes to write it; using CMS' included BounceBack Express software was just as slow.

Clearly, you'll find other faster and less expensive portable drives, but if you require an added layer of security for your sensitive data, the ABS-Secure will fit the bill. *—John R. Delaney*

Creative Gigaworks T40

Speakers deliver bass punch without a subwoofer

CREATIVE'S $149.99 GIGAWORKS T40 redefines what small speaker systems are capable of. This two-speaker setup lacks a dedicated subwoofer, yet delivers room-filling sound that can please gamers, moviegoers, and music fans alike.

Each of the two PC- and Mac-friendly speakers delivers 11 watts RMS of power. They have a glossy gray exterior with rounded corners and an attachable flat stand to prevent them from toppling over on your desk. The speakers also come with removable grilles, which protect the three midrange drivers underneath. Like their predecessors, the T20s, the T40s feature a BasXPort on both the left and right satellite to help boost the lower midrange. Bass, treble, and volume controls are located on the right speaker in addition to a front-mounted headphone jack. On the rear, you'll find the speaker's power switch—somewhat inconveniently—alongside a docking port that is compatible with Creative's X-30 Docking Station for iPods ($49.99). Noticeably missing is an auxiliary input, although Creative does include an adapter that lets you use the speakers with dual RCA connections.

EDITORS' RATING 8.0

0 BETTER ›› 10

PROS Excellent mids and highs; strong, room-filling sound

CONS Off switch is located behind the speakers; no auxiliary input

Creative, 800-998-1000
us.creative.com

Direct Price $149.99

Once we tweaked the default bass and treble settings, these speakers blew us away. They were strong enough to deliver punchy bass when we were watching movies and did an excellent job of highlighting dialogue so that it was always clear and defined. Even at high levels, the bass was powerful and not overly boomy. When playing back music, the speakers produced well-defined vocals that weren't drowned out or muffled by high volume levels. In fact, sound from these speakers was strong enough to fill not only our bedroom, but also our entire apartment. *—Louis Ramirez*

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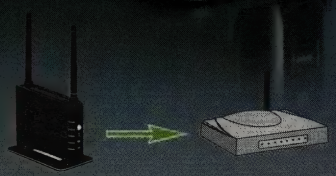

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Razer Mako 2.1 Advanced Desktop Audio System

Stylish speakers project solid sound

CO-DEVELOPED BY RAZER AND THX, the pricey $399.99 Mako 2.1 Advanced Desktop Audio System is Razer's first foray into the audio world. That doesn't make these mushroom-shaped speakers a rookie package, however: They're a home theater system in disguise.

Razer's designers gave the Mako a compact, funky design. Each of the black orbs packs a 360-degree grill on the bottom, which helps the satellites create an omnidirectional soundstage. The downward-firing satellites each deliver a bi-amplified 50 watts, while the subwoofer commands an additional 100 watts for a total system power of 300 watts RMS.

EDITORS' RATING 7.5

0 BETTER >> 10

PROS Excellent design; omni-directional sound delivers balanced audio; works great with DVDs and music

CONS Not enough input connections; touch-sensitive control can be finicky; sound tends to muffle at high volume; expensive

Razer, 888-697-2037
www.razerzone.com

Direct Price $399.99

Setup is quick and easy. The satellites use a special Cat 5 cable to connect to the subwoofer. The subwoofer itself houses a 3.5mm auxiliary input, an RCA audio input, a port for the control pod, and a power switch. We were somewhat disappointed that the system offered no additional connections.

The Mako's touch-sensitive control pod complements the system's striking design. It glows blue when powered on and it has no buttons; you swirl your finger around the edges of the pod to raise and lower the volume or adjust the bass. The pod was finicky at times, but as long as we applied adequate pressure and didn't run our fingers too fast, it worked fairly well.

Overall, we were impressed with the system's audio quality. Movies and CDs projected with clarity and detail. At higher volumes, however, the bass overpowered the dialogue, which resulted in muffled booms and explosions. When we connected it to our PC, the system again impressed us, rivaling the quality of a 5.1 setup. —*Louis Ramirez*

Bowers & Wilkins Zeppelin

A pricey system that elevates the iPod

THE BOWERS & WILKINS ZEPPELIN is a showpiece as much as it is a high-performance iPod speaker. The Zeppelin is capable of cranking out music loud and clear, providing some of the best audio quality you're going to find in this category. And at $599.95, it had better do so.

Enclosed in its polished stainless steel body with black trim and black cloth grilles are two 1-inch tweeters, two 3.5-inch midrange drivers, and a 5-inch woofer. The Zeppelin is made for use with the latest iPods, but any model with a docking connector will work for audio at the very least. (Although it is not technically certified to use with the iPhone, the speakers also will operate with the device.)

EDITORS' RATING 7.5

0 BETTER >> 10

PROS Great sound quality; very loud; unique design

CONS Very pricey for an iPod dock with few features

Bowers & Wilkins, 978-664-2870
www.bowers-wilkins.com

List Price $599.95

Spin the 16.5-pound system around and you'll find a 3.5mm auxiliary jack, S-Video and composite video jacks to send video or pictures from an iPod to a television, and a USB port for firmware updates. The included basic wireless remote control matches the unit's curves, but unfortunately, the features end here.

B&W claims the design's purpose is more than aesthetics: The cabinet form apparently limits sound distortion and diffraction. Similarly, the Zeppelin's heft is meant to minimize the cabinet's impact on audio so you hear the music—not the music's effect on the cabinet. A dedicated amplifier supplies 50 watts to the woofer while another sends 25 watts to each tweeter and midrange pairing. Like all one-piece iPod speaker systems, the Zeppelin's stereo separation isn't great, but the actual sound quality is far better than what most other iPod speaker docks—even high-end models—provide. —*Joshua Goldman*

Fantom Drives G-Force MegaDisk NAS MDN1000

NAS drive works as DHCP and iTunes server

THE MDN1000 in Micronet's Fantom Drives G-Force MegaDisk line of network-attached-storage (NAS) devices delivers 1TB of storage at a reasonable $349.95 price. While its transfer speeds are merely average, this versatile drive offers a variety of features.

The MegaDisk consists of two 7,200rpm 500GB drives enclosed in an aluminum case. The drives can be configured for RAID 0 to achieve a maximum of 1TB of storage, or you can set them for RAID 1 for data redundancy.

The drive is easy to set up, but the user interface and menu are not intuitive, and there are no built-in help screens. Although Micronet touts the drive as being suitable for network novices, it certainly helps to have a working knowledge of networking technologies if you want to take advantage of all the drive has to offer.

EDITORS' RATING 8.0

0 BETTER >> 10

PROS Affordable; functions as DHCP and iTunes server; works with Windows and Mac OS X clients; built-in RAID support

CONS Sluggish read/write speeds; administration menus not intuitive

Micronet, 800-980-3463
www.fantomdrives.com

Direct Price $349.95

The device can be set up as a Dynamic Host Configuration Protocol (DHCP) server, and you can enable unattended BitTorrent downloads and create maximum upstream and downstream bandwidth thresholds.

Sharing iTunes music across the network is a snap. The MegaDisk will show up in the iTunes Shared library section (assuming you have configured iTunes to look for shared libraries). The device had no trouble serving up tunes, and playback quality was every bit as good as if we were accessing a local drive.

The MegaDisk delivered mediocre read/write performance, however. It required 18 minutes and 52 seconds to write a 10GB folder consisting of a mix of movie, music, and other assorted data files. It needed 12 minutes and 18 seconds to read the same 10GB folder. —*John R. Delaney*

LCDs with a Brand New View

LED-backlit displays offer more accurate color reproduction

UNLIKE COLD CATHODE fluorescent lamps (CCFLs), which provide the light that shines through the pixels of traditional LCD panels, LEDs produce a purer white light, and with larger displays the LEDs can be spread out in a grid behind the display to provide a more uniform glow. And by employing color (RGB) LEDs in the grid, manufacturers can actually heighten the color response of the panel.

LED-based LCDs can easily exceed 100 percent of the possible colors in the television specs spelled out by the NTSC, pushing them beyond standard RGB (sRGB) and into the higher end of the color spectrum—the Adobe RGB and CMYK profiles favored by professional designers. (CMYK is a precise formula for printing colors.)

There are ancillary benefits as well: LEDs use much less power than CCFL tubes, generate less heat, and tend to last longer. The average rating is about 100,000 hours versus about 50,000 hours for CCFLs. LEDs also don't contain mercury, which is a major benefit when it comes time to dispose of the display.

Because it is new technology, however, LED backlights add to the price of an LCD. That's easy to see when looking at the two LCD monitors we have here.

For now, LED-backlit monitors remain a niche category for those in the graphic arts and digital imaging arenas who can justify the premium prices. That will change over time, but until it does, most of us will do more looking than buying.

VIEWSONIC VLED221WM

The $800 VLED221wm with LED backlighting does a reasonably good job—although you will pay for the benefits it provides.

The 22-inch monitor uses a 16:10 display format and has a native resolution of 1,680x1,050. The 250 candelas per square meter (cd/m²) brightness level is low, but the LED backlighting makes it perfectly acceptable. A 1,000-to-1 static contrast ratio is excellent, but the backlighting is modulated to create a 12,000-to-1 dynamic contrast ratio. It works well unless you're viewing individual images with a wide difference in brightness. As you display each image individually, you can watch the screen darken or lighten—but with none of the subtlety it has when doing so during videos or gaming. The experience is a lot like turning the wick of an oil lamp up or down.

When we ran it through DisplayMate **(www.displaymate.com)**, the VLED221wm was no better than the average LCD monitor at the low end of dark grayscale displays or at the high end of white-level saturation. It lost some distinction with a couple of blocks at the far ends of each. Adjustments to contrast and brightness had no effect.

On the other hand, color was brilliant. ViewSonic employs a combination of white and color LEDs in its backlighting scheme to enhance the monitor's color rendition, and it works well.

Producing 118 percent of the NTSC color gamut (according to ViewSonic), the VLED-221wm is not quite the production-level monitor a professional might select. But for cutting-edge prosumers who don't mind paying a premium for the latest technology, Viewsonic has hit the mark.

SAMSUNG XL24

At just a little more than $100 per diagonal inch of viewing area, the 24-inch Samsung XL24 has enough bells and whistles to keep the professional user euphoric for quite a while.

LED backlighting makes the XL24 a marvel of color reproduction right out of the box. It required absolutely no brightness or contrast adjustments, and subtle variations of color were much more noticeable than on most monitors. According to Samsung, the XL24 is capable of producing 123 percent of the NTSC color gamut, which gives the display a broad enough range to reproduce color in the Adobe RGB and CMYK profiles. Melding those together, in theory at least, enables you to print on paper exactly what you see on the screen. A calibration tool is provided, as well as software to create, save, and recall color profiles.

Specs include a 1,920x1,200 native resolution, a 1,000-to-1 static contrast ratio, an 8-millisecond response time, and 250 cd/m².

In the DisplayMate tests, our only complaint was that text below 6.8 points was barely readable. Discriminating between gray and white saturation levels was no challenge; there was no flaring or smearing, no blurs or shadows—nothing but great color.

The bad news about Samsung's XL24 is that most people couldn't possibly use it to the extent its $2,499 price demands. But if you need a professional-level display with the imaging features required for production consistency, you probably can't afford to pass up the XL24. —*Bill O'Brien*

Product Summary

	ViewSonic VLED221wm	Samsung XL24
EDITORS' RATING	7.9	8.3
PROS	Fine color presentation, especially in displaying small variations in hue	Excellent color reproduction out of the box; color response can be calibrated for consistency; supports sRGB, Adobe RGB, and CMYK color schemes
CONS	Almost all of the display's other parameters are standard LCD issue	The level of professionalism needed to justify the price might be the only real limiting factor
COMPANY	ViewSonic 800-888-8583 www.viewsonic.com	Samsung 800-726-7864 www.samsung.com
MFR. EST. PRICE	$800	$2,499

Brother MFC-685CW

An all-in-one with mixed results

BROTHER'S $199.99 MFC-685CW all-in-one inkjet printer boasts color document and photo printing, scanner/copier/fax functionality (with built-in automatic document feeder), and USB, Ethernet, and wireless connections, all in a relatively compact package. The combination offers just about everything a home office needs—but only if speed isn't a concern.

The printer is rated at up to 25 pages per minute (ppm) in color and 30 ppm in black and white, but those are in draft mode. At normal print quality, our 10-page color test document containing a mix of graphics and text took 3 minutes and 57 seconds. Our text-only, black-and-white document was marginally faster at 3 minutes and 33 seconds. That puts the actual speed at about one-tenth the rated performance, making this one of the slowest printers we've tested.

Text printouts from the four-color inkjet engine were a mixed bag. Black text was relatively dark, and very small fonts were readable. However, the edges of characters were somewhat fuzzy and poorly defined. Color accuracy was good, though photos and charts printed on plain paper were somewhat washed out.

Photo print speed is very slow, taking 2 minutes and 8 seconds to print a borderless 4x6-inch snapshot. Quality varied depending on the photo's composition. The best photos looked good, though they lacked saturation; the worst showed subtle banding in some areas.

The network functionality is very complete: You can print, scan, fax, and even transfer photos from memory cards wirelessly from any computer on your network where you've installed the Brother drivers and software. The bundled software makes setup easy, and the printer includes fax, scanning, and OCR software. *—Denny Atkin*

EDITORS' RATING 6.9

0 BETTER ›› 10

PROS Connects to wired and wireless networks; transfers photos wirelessly from card to computer; automatic document feeder

CONS Very slow printing; inconsistent photo quality

Brother International, 877-276-8437
www.brother-usa.com

Mfr. Est. Price $199.99

Samsung CLP-610ND

Affordable color laser with built-in duplexing

AT $399.99, THE CLP-610ND from Samsung is an attractive bargain. It's relatively fast for a low-end color laser, and it comes with a built-in duplex feature for automatically printing on both sides of the paper. You can also expand the onboard memory from 128MB to a maximum of 384MB.

The 610ND has both a 250-sheet-capacity main tray and a multipurpose tray that can hold 100 sheets. (An optional third tray can handle an additional 500 sheets.) Rated at 21 pages per minute for both color and monochrome (thanks to its single-pass color laser engine), it didn't quite match that mark in our real-world tests, but its performance was solid nonetheless. Our 20-page text file printed in 1 minute and 14 seconds, and our 10-page text-and-graphics test document printed in 48 seconds. That doesn't include the warm-up time (44 seconds from cold start to ready-to-print) or the 1 minute and 12 seconds the unit needs before the first printout of the day.

Print quality was also generally good. The 610ND has a 600x600 native resolution and 2,400x600 interpolated resolution. With our test grid, printed text was legible all the way down to 3 points. (Below that, you'll probably need a magnifying glass anyway.) Text was consistent and well-formed. Colors were generally accurate, though somewhat oversaturated. Photos reproduced surprisingly well on plain paper, albeit with some dithering in areas with extremes in contrast.

Samsung rates the 610ND at 10.2 cents per page for color and 2.4 cents per page for black and white, which is low for an entry-level color laser (though not the lowest we've seen). *—David English*

EDITORS' RATING 8.2

0 BETTER ›› 10

PROS Built-in duplex printing; relatively fast for the price; can upgrade memory; low cost per page

CONS Color graphics somewhat oversaturated; long wait time before first print of the day

Samsung, 800-726-7864
www.samsung.com

Mfr. Est. Price $399.99

Kodak EasyShare Z812 IS

A super-zoom with much to like for the price

THE $279.95 EASYSHARE Z812 IS from Kodak is a prosumer-oriented super-zoom digital camera that, with a few drawbacks, offers a lot of bang for the buck.

The Z812 takes its design cues from larger digital single-lens-reflex cameras, and its polycarbonate and metal alloy body feels comfortable and sturdy. It features an advanced 8.1-megapixel sensor, a high-resolution 2.5-inch LCD, and an image-stabilized 36mm-to-432mm f/2.8-to-f/4.8 Schneider-Kreuznach Variogon 12x zoom lens.

EDITORS' RATING 7.2

0 BETTER ›› 10

PROS Solid build quality; easy-to-use interface; manual exposure controls included; 12x zoom lens

CONS Very slow write-to-card times; no rechargeable battery included; noisy images above ISO 200

Kodak, 800-421-6699
www.kodak.com

Direct Price $279.95

The Z812 bundle includes a non-rechargeable CRV3 lithium battery. In a pinch, you can use two standard alkaline AA batteries, but they won't offer the longer-lasting capacity of lithium versions.

The interface on the Z812 is remarkably easy to use. Most functions on the camera have a dedicated button, and the menu system is fast and simple to navigate. A thumb wheel can be used to access manual functions on the camera, including aperture, shutter speed, and exposure compensation.

The image quality from the Z812 is good overall, though the camera produces colors that are slightly oversaturated. That oversaturation makes for a bright, vibrant aesthetic that may appeal to some viewers, however. Noise is relatively well-controlled at lower sensitivities, but starting at ISO 200 noise starts creeping into the images. By ISO 800, the noise becomes an impediment to image quality.

In terms of response time, the Z812 is a mixed bag. The camera's interface is relatively zippy to operate, it starts up in just over one second, and its autofocus is relatively fast. The Z812 is, however, crippled by very slow write-to-card times—so much so that it reminded us of early digital cameras. *—John B. Stafford*

Sony Cyber-shot DSC-T2

Compact camera loaded with flash memory

THE $349.99 SONY CYBER-SHOT DSC-T2 packs a lot of memory into a body about the size of a card deck. This 8-megapixel compact point-and-shoot offers a seemingly endless number of features, including a 3x internal optical zoom lens, 4GB of internal memory, and a large 2.7-inch touch-screen LCD, making it worth the price.

The internal flash memory eliminates the need for a memory card, although the camera supports Memory Stick Duo cards. During our testing, we didn't use one, but we still had enough internal storage to take hundreds of photos at 8 megapixels, with no end in sight. Slightly inconvenient is the fact that the T2 requires a dongle converter to connect to the USB cable when downloading photos, and another optional cable to display them on a television.

EDITORS' RATING 7.2

0 BETTER ›› 10

PROS A huge amount of internal memory; photos come out crisp in most lighting; loads of features; decent image stabilization; large LCD with touch screen

CONS LCD is noisy in low lighting; onscreen icons can be difficult to engage; dongle needed to connect to USB cable

Sony Electronics, 877-865-7669
www.sonystyle.com

Direct Price $349.99

In bright light, the camera produces crisp, clean images. Particularly impressive is the camera's performance with a high ISO sensitivity in low lighting. At ISO 3200 (the camera's highest), indoor images in low lighting were a tad noisy, but still fairly clear. Stability control works nicely in all lighting conditions. Other helpful features include face detection and smile shutter mode, which automatically shoots when it detects a smile.

Shutter speed is good at a little less than 2 seconds. Shot-to-shot time in low lighting is 4.2 seconds, and 3.7 seconds in bright light.

The LCD does have a few tics. The screen tends to be a bit noisy in low-lit situations, and downright fuzzy in the dark. Also, onscreen icons often have to be pushed quite hard to enable the desired feature. *—Jonathan Rougeot*

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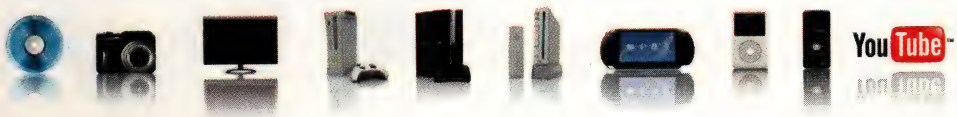

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Nokia N810

Linux-based mobile Internet device has some flaws

THANKS TO ITS CUSTOMIZABLE Linux-based OS and robust Web browser, the $479.99 Nokia N810 offers one of the best mobile Internet experiences you can buy, but business users will be miffed by its lack of productivity tools and built-in WWAN.

The sleek-looking, 8-ounce N810 boasts a sprawling 4.1-inch touch-screen display and a slide-out, backlit, QWERTY keyboard. You also get built-in stereo speakers, a pop-out kickstand, and fixed-lens VGA Webcam, which is fine for video conferencing but not ideal for snapping photos.

The N810 operates on the latest upgrade to its Linux-based Maemo OS 2008, which allows you to customize your home screen as well as download additional applications. There's also an onboard media player that supports a good mix of audio and video files, but we found some videos suffered severe stutter.

Simply put, Web browsing on the N810 is a joy. The device's Web browser supports AJAX, Java, and Flash; in our tests, Web pages loaded quickly using the N810's 802.11 b/g Wi-Fi connection, and most formatted perfectly. The N810 also comes with a chat application and a barebones e-mail client. We only wish that Nokia had included a wireless broadband radio as well. As for other features, the device offers GPS software that's mostly on par with what you would get in a standalone GPS unit, though you have to cough up $129.99 for a three-year license in order to use it past its seven-day trial. The one area that Nokia apparently completely overlooked on the N810 is productivity. The device lacks PIM tools like a calendar, document editor, and spreadsheet viewer, which will undoubtedly disappoint business users. —*Mike Spitalieri*

EDITORS' RATING 6.5

0 BETTER ›› 10

PROS Excellent Web browsing; includes built-in QWERTY keyboard, GPS receiver; Linux-based Maemo OS 2008 offers a wide variety of downloadable applications and customization options

CONS Fixed-lens Webcam is not ideal for taking pictures; stripped-down e-mail client; GPS software requires $129 license; jerky video playback for some file types; lacks productivity tools

Nokia, 888-665-4228
www.nokiausa.com

Direct Price $479.99

Creative Aurvana X-Fi Noise-Canceling Headphones

Bose rivals rock, but fall short on design

CREATIVE'S ANSWER TO THE Bose QuietComfort series of noise-canceling headphones, the $299.99 Aurvana X-Fi delivers excellent sound quality—but it's crippled by design problems.

Listening was indeed a pleasure, as the Aurvana X-Fi delivered very good sound quality both with the noise-canceling function enabled and without, though we found the Aurvana less effective than the Bose at blocking out ambient noise.

On the right earpiece, you'll find buttons for two other audio-enhancing features. Activating the X-Fi Crystalizer—billed as a way to restore "detail and vibrancy" to compressed music and movies—definitely brightened and livened up the sound. The other option, X-Fi CMSS-3D, is supposed to give stereo music and movies a "virtual surround sound" feel, but we were dissatisfied with the results, which stripped away the crispness and clarity the noise canceling and Crystalizer add.

Our bigger problems with the Aurvana X-Fi, however, were with the design. Despite boasting a black-and-silver look similar to the Bose QuietComfort 2's, the Aurvana is bulkier and fit somewhat less snugly over our ears. What's more, though we appreciated having a volume control on the earpieces, we found that its placement on the bottom portion of the right earpiece made it too easy to accidentally swipe it. The on-earpiece jack for the audio cable was also problematic: It was practically impossible to plug in or unplug while wearing the headphones, and yet loose enough that it constantly disconnected.

The biggest deal breaker (literally) was the Aurvana X-Fi's shoddy construction. During our testing period, the adjustable portions of the headset broke, forcing us to tape them back together to make them wearable. —*Matthew Murray*

EDITORS' RATING 7.0

0 BETTER ›› 10

PROS Very good sound quality in ordinary conditions; X-Fi Crystalizer option enhances compressed audio; on-ear volume switch

CONS Poorly designed, with bulky earpieces and problematic adjustable headset and audio connector cable; X-Fi CMSS-3D essentially useless

Creative Labs, 800-998-1000
us.creative.com

Direct Price $299.99

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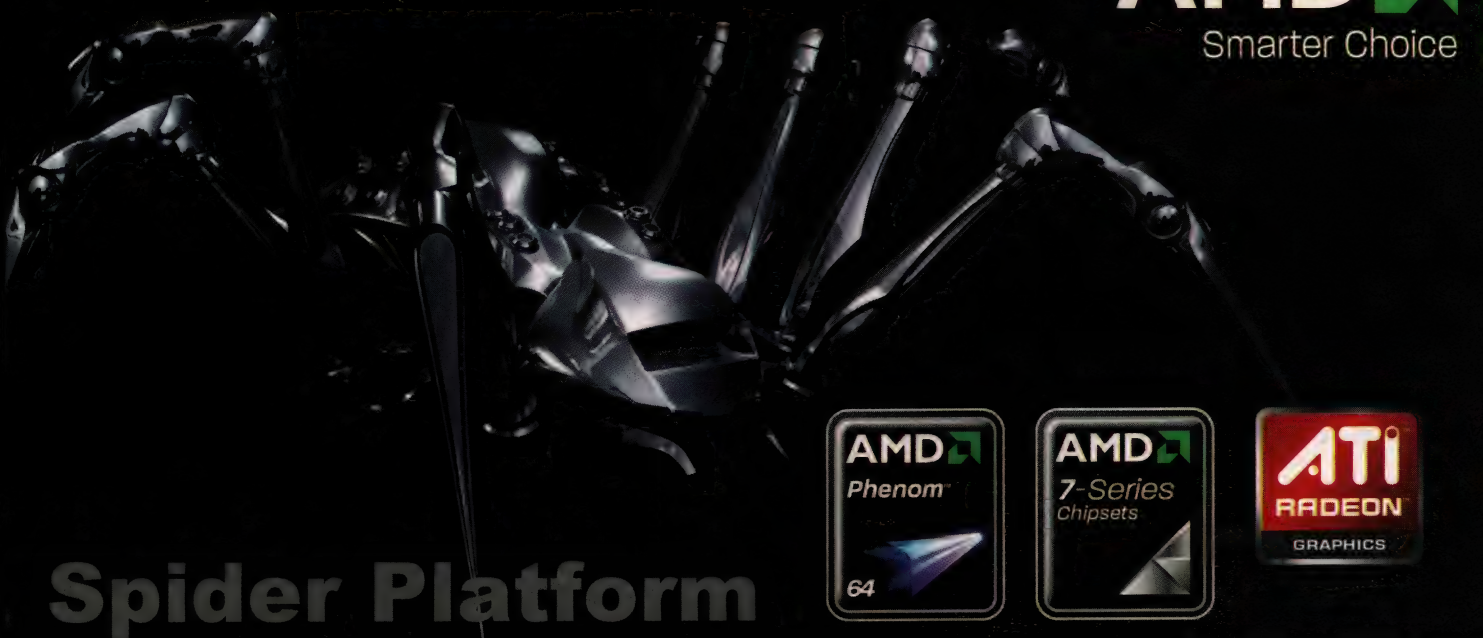

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Cambridge SoundWorks i765

Pricey iPod speaker system is feature-loaded

EDITORS' RATING 7.7

0 BETTER ›› 10

PROS Impressive audio quality; works with all iPods; convincing surround sound

CONS Expensive; remote control not always responsive; bass withers at higher volumes; no satellite radio support

Cambridge SoundWorks
800-367-4434
www.cambridgesoundworks.com

Direct Price: $499.99

THE SMALL-YET-POWERFUL $499.99 Cambridge SoundWorks i765 cranks out surprisingly good audio from a wide array of sources. It's expensive, but you're paying for one of the best iPod-enabled sound systems available.

The i765 can charge and play music from any iPod with a dock connector, and includes eight plastic adapters that allow any iPod to fit into the dock. (The i765 doesn't officially support the iPhone, but we were able to charge our iPhone and play music on it without problems.) It can also play CDs and DVDs, and it supports MP3 and WMA playback from media recorded onto discs. If you connect the i765 to an external display, you can also watch DVDs and even play videos from a video-enabled iPod. It has an auxiliary input port, too. While the device provides AM and FM radio, it lacks support for satellite radio.

The system's little 1.6-inch tweeters belt out crystal-clear highs, while the built-in subwoofer covers the bottom end surprisingly well, though the bass tends to get drowned out somewhat as volume increases. When we watched DVD movies, soundtracks sounded surprisingly good thanks to a "wide" audio option that projects the sound to the left and right.

The bundled remote control is decent and offers buttons for every feature, including a snooze button for the built-in alarm clock. It lets you tweak bass and treble levels, determine whether text on the unit's LCD scrolls or stays static, and adjust snooze length. You can also save 16 FM radio presets and eight AM presets. We had difficulty setting alarm times with the remote, however. *—Josh Norem*

Logitech Harmony One

A device to banish all other remote controls, for good

EDITORS' RATING 7.5

0 BETTER ›› 10

PROS Feature-rich controller; large, well laid-out buttons; bright display with easily identifiable icons; comfortable to use

CONS Programming requires Internet access; multiple remotes require multiple accounts; no global setting for functions such as volume or channel

Logitech, 800-231-7717
www.logitech.com

Mfr. Est. Price $249.99

WELL-LIT KEYS, a bright color touch screen, and a sleek ergonomic design are just some of the highlights of Logitech's new Harmony One. Although $249.99 is a lot of money for a remote control, the advances justify the price.

The remote fits fairly comfortably in the hand. The large, raised buttons are a boon for the less-than-dexterous. Also, the buttons have very effective backlighting, so navigating the keypad in the dark is a breeze. The bright touch screen has a high resolution, which makes it easy to see and use. Logitech describes this new layout as "sculpted buttons in logical zones," so buttons are properly grouped together.

Like most universal remotes, you'll need to program the Harmony One. The setup process requires using the supplied software (Mac or Windows), a USB connection to your computer, and access to the Web. Unfortunately, you can only set up the remote control online; there is no manual way to program in the codes.

One of this Harmony remote's most useful—and unique—controls is Activities. Pushing a programmed "Watch a DVD" button on the touch screen, for example, might turn on the home stereo, television, and DVD player, start the disc, and adjust the loudness of the TV speakers.

Another useful function is the device's Smart State Technology, which remembers which devices are on or off. One quibble is that the new software works with only one Harmony One remote; if you have additional controllers, you must create separate accounts for each controller. *—Scott Franklin*

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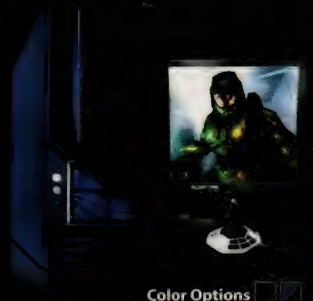
AMD Phenom™ 64

iBuypower recommends Windows Vista™ Home Premium

GAMER MAGE 550-SLI™



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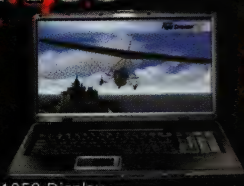

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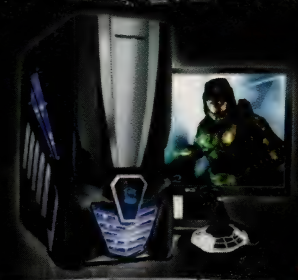

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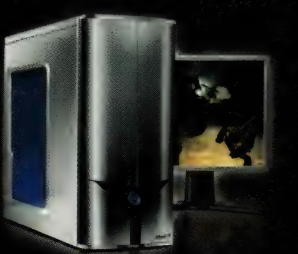
$1239

GAMER PALADIN 885MX



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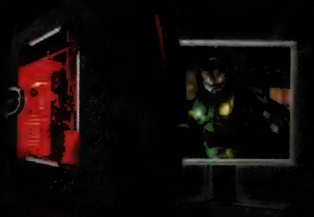

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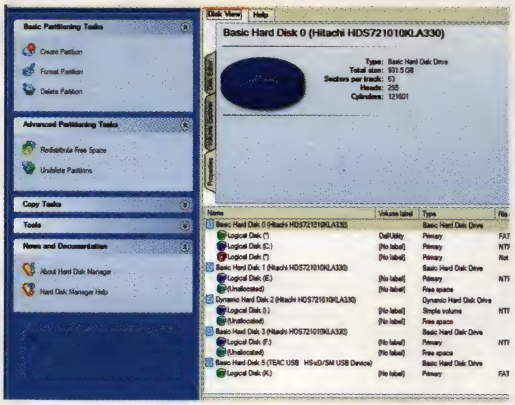
Hard Disk Manager 2008 Suite

Strong drive utility package is not ideal for novices



WHILE IT ISN'T COMPLETE, Paragon Software's Hard Disk Manager offers a lot for $49.95. You'll find more backup, defragmentation, and maintenance options in other programs, but Hard Disk Manager has most of the features you're likely to need, in one place, under a common interface.

Hard Disk Manager uses Paragon's particularly strong partition engine: You can create or resize an existing partition without losing the data—which you can't do in Windows—and clone, back up, and restore partitions or entire drives (though this process is slower than in many dedicated backup utilities). A Boot Manager makes it easy to configure your computer for multiple operating systems.

One of Hard Disk Manager's most valuable aspects is that you can use it to create a bootable Linux-based Rescue CD for backing up, restoring, or repairing a faulty boot drive. The Rescue CD supports most of the application's partition and backup functions. It can also check the system integrity of the drive and update the drive's Master Boot Record (MBR). On our test system, the Rescue CD successfully found the C: drive, but it missed two other internal drives.

You can't defrag drives in the background, but you can defrag a specific partition or a drive's Master File Table (MFT). You can also compact the MFT for faster file access, as well as permanently wipe personal data from a drive.

On the downside, both the interface and documentation are rough, with the included tutorials written primarily for experienced users. But overall, the low price and broad feature set make Hard Disk Manager 2008 Suite a worthy alternative to many better-known hard drive applications. *—David English*

EDITORS' RATING 8.0

0 BETTER ›› 10

PROS Strong overall collection of useful hard drive management tools, including backup, defragmentation, and maintenance apps

CONS Help system geared more toward experienced users than novices; backup process slower than with some other apps; Rescue CD performs inconsistently

Paragon Software, 888-347-5462
www.paragon-software.com

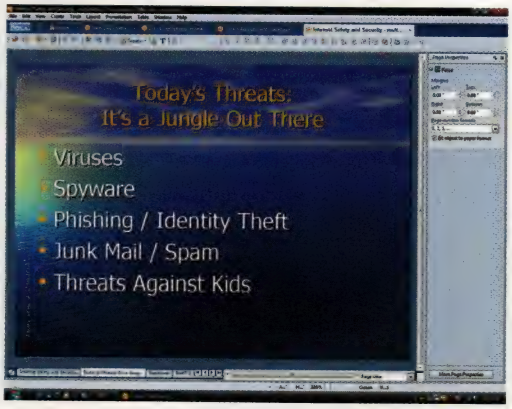
Direct Price $49.95 (download)

IBM Lotus Symphony Beta 4

Free, full-featured office suite

FOR SAVVY USERS seeking a no-cost alternative to Microsoft Office, the go-to choice has long been open-source suite OpenOffice.org. Now IBM presents a second option: Lotus Symphony. Stocked with similar workday essentials, but much easier to learn and use, this free suite should please home and business users alike.

IBM reorganized and polished the OpenOffice-based interface, stripping away most of the clutter and applying a pleasing, modern theme. Everything resides under the same tabbed roof—word-processing documents, presentations, and spreadsheets (there's also a lightly featured Web browser, but no database or drawing apps)—so you can hop between multiple documents and document types with a single click.



Symphony may not match Office 2007 feature for feature, but it packs plenty of power for everyday users. The Documents module, for instance, offers tables, macros, spell-check, and auto-complete; Presentations serves up a solid selection of backgrounds and slide transitions, and includes a timing-rehearsal mode; Spreadsheets provides charting, templates, and a euro converter for currency cells.

Symphony can open and save files using a number of popular formats, including OpenDocument and Microsoft Office (up to 2003—it doesn't support 2007's Office Open XML format). You can also export PDFs from any of the three apps.

During our tests, Symphony loaded slowly, felt sluggish during operations, and occasionally crashed or displayed text in strange ways. If you run into problems, IBM doesn't offer direct support for Symphony, though it maintains active forums where you can post questions. With any luck, Lotus Symphony will shake out its bugs and performance issues before its final release in a couple of months. *—Rick Broida*

EDITORS' RATING 7.0

0 BETTER ›› 10

PROS Free; attractive, intuitive interface consistent across apps; supports many popular file formats; can export to PDF

CONS Slow to load and sluggish to use, with frequent crashes; file support doesn't extend to Office 2007 formats; built-in Web browser has limited functionality; lacks drawing and database modules

IBM, symphony.lotus.com

Direct Price Free

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What's in your computer? Photos, music, personal files, financial data, broadband access, videos, and more. Your computer has never been more important, and yet it has never been at higher risk for damaging power surges and other disturbances.

So like most people, you need to protect your assets. But like most people, you'd also like to protect the environment. With our new energy conscious products, you can do both. Energy efficient by design, our new smart products protect the power going in your computer, at a cost that is quickly offset by big energy savings. How? Not only do the new Back-UPS ES® and SurgeArrest® use power very wisely, they also boast a master/control outlets feature, which automatically powers down idle devices to conserve energy.

APC power protection products are available at:

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"The pricetag on the new UPS is $99.99. While I'm not in the habit of endorsing products in this blog, if you're in the market for a workstation-class UPS, why not opt for the greener option?"

- Heather Clancy
ZDNet.com

In fact, while protecting your power supply, we're up to 5 times more energy efficient than any other solution. By saving you $40 a year in energy costs, our Back-UPS ES pays for itself in 2 short years. The high frequency, low copper design has a smaller transformer and environmental footprint. Even the packaging has been carefully selected and manufactured to maximize use of recycled materials and minimize waste.

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10 outlets, DSL and Coax protection, Master/Controlled Outlets, High Frequency Design, 70 minutes of runtime†

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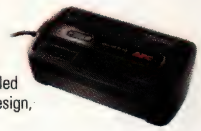

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*Average savings are based on comparable competitive models, and are comprised of two energy saving features: An ultra efficient electrical design, and the master/controlled outlet feature.

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According to an independent study, 18% of notebook computers will be physically damaged and returned for repair in the first year of ownership. Over 60% of these notebooks are damaged by accidental drops and over 30% are damaged by liquid spills.

At 3K Computers, every notebook in our Semi-Rugged product line incorporates industrial rugged features to help protect the vital components of your notebook, such as, the motherboard, hard drive and memory module. Yet, it still retains a slim, lightweight design allowing for ultimate portability and functionality.

	3K LONGITUDE 740R	THE VERDICT	PANASONIC CF-52
Drop Resistant	Magnesium Alloy Case	✓	Magnesium Alloy Case
Spill Resistant	Keyboard & Touch Pad	✓	Keyboard & Touch Pad
Shock Mounted	Hard Drive & LCD Screen	✓	Hard Drive & LCD Screen
Optical Disk Lock	ON	✓	ON
LCD Display	15.4" Widescreen TFT	✓	15.4" Widescreen TFT
Processor	Core 2 Duo T7300 (2.0 GHz) Centrino Duo	✓	Core 2 Duo T7300 (2.0 GHz) Centrino Duo
Memory	**2 GB**	**3K**	1 GB
Hard Drive	120GB	✓	120GB
Optical Drive	DVD Multi-Recorder	✓	DVD Multi-Recorder
Video	GMA X3100	✓	GMA X3100
Networking	Gigabit Ethernet	✓	Gigabit Ethernet
Wireless Networking	802.11 a/b/g	✓	802.11 a/b/g
TPM Security	YES	✓	YES
Smart Card Reader	Integrated	✓	Integrated
Operating System	Genuine Windows XP Pro	✓	Genuine Windows XP Pro
MSRP	**$1,899.00**	**3K**	**$2,999.00**

Panasonic pricing and specifications were obtained from www.panasonic.com

MFR Part Number	Description	MSRP
3K-LT619R-141-16G	**3K Longitude 619R** - Semi Rugged Business Notebook - AMD Turion 64 / 1.6 GHz - RAM 1 GB - HDD 60 GB - DVD Multi Recorder - GMA X3100 - 10/100 Ethernet - WLAN : 802.11a/b/g - Win XP Pro - 14.1" Widescreen TFT 1024 x 768 (WXGA)	$1,199.00
3K-LT713R-133-173G	**3K Longitude 713R** - Semi Rugged Business Notebook - Core Duo T2250 / 1.73 GHz - RAM 1 GB - HDD 80 GB - DVD Multi Recorder - GMA X3100 - Gigabit Ethernet - WLAN : 802.11a/b/g - Win XP Pro - 13.3" Widescreen TFT 1024 x 768 (WXGA) - Web Camera	$1,399.00
3K-LT730R-141-183G	**3K Longitude 730R** - Semi Rugged Business Notebook - Core 2 Duo T5600 / 1.83 GHz - Centrino Duo - RAM 1 GB - HDD 80 GB - DVD Multi Recorder - GMA X3100 - Gigabit Ethernet - WLAN : 802.11a/b/g - Win XP Pro - 14.1" Widescreen TFT 1024 x 768 (WXGA)	$1,399.00
3K-LT740R-154A-2G	**3K Longitude 740R** - Semi Rugged Business Notebook - Core 2 Duo T7300 / 2.0 GHz - Centrino Duo - RAM 1 GB - HDD 80 GB - DVD Multi Recorder - GMA X3100 - Gigabit Ethernet - WLAN : 802.11a/b/g - TPM - SmartCard reader - Win XP Pro - 15.4" Widescreen TFT 1280 x 800 (WXGA)	$1,599.00

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or call 888.590.9215 for more information.

TOP 5 SPACE-SAVING DESKTOPS

GET POWERFUL COMPONENTS AND FEATURES PACKED INTO COMPACT DESIGNS.

1

Alienware Hangar18 HD Entertainment Center

www.alienware.com
$3,103 (as tested)
Editors' Rating: 8.6 ✓

Specs
- 2.4GHz Athlon X2 4600+
- 2GB DDR2 memory
- Two 1TB hard drives
- Double-layer DVD±RW/DVD-RAM
- nVidia GeForce 7600 GS graphics (256MB)
- One-year warranty

Bottom Line
Built for the upscale mediaphile, the pricey Hangar18 is very well-equipped, with dual TV tuners, a 1080p-resolution-capable GeForce 7600 GS graphics card, and enough A/V inputs to make a high-end receiver blush, all packed into a slim case. But unlike the company's other boutique boxes, this entertainment PC doesn't pack much gaming power.

2

Apple iMac

www.apple.com
$1,499 (as tested)
Editors' Rating: 8.5 ✓

Specs
- 2.4GHz Core 2 Duo T7700
- 1GB DDR2 memory
- 320GB hard drive
- Double-layer DVD±RW
- ATI Radeon HD 2600 Pro graphics (256MB)
- Integrated 20-inch wide-screen LCD
- One-year warranty

Bottom Line
With its super-elegant new design and strong configuration, Apple's iMac competes with the PC-desktop market better than perhaps any previous Mac to date. Unless you're a gamer or an upgrade enthusiast, we can think of few reasons not to make an iMac your next desktop.

3

HP Compaq DC7800

www.hp.com
$1,339 (as tested)
Editors' Rating: 8.1

Specs
- 2.66GHz Core 2 Duo E6750
- 1GB DDR2 memory
- 80GB hard drive
- Double-layer DVD±RW
- Integrated graphics
- 19-inch HP LCD
- Three-year warranty

Bottom Line
At just 2.5x10x10 inches, the HP Compaq DC7800 is not only tinier than most coffee-table books, but it's also about a third of the size of its 19-inch monitor. In fact, it was designed to be stowed underneath the screen. What's more, this reasonably priced small-form-factor PC packs more power than we've seen in desktops several times its size and price.

4

Gateway One

www.gateway.com
$1,799.99 (as tested)
Editors' Rating: 7.9

Specs
- 2GHz Intel Core 2 Duo T7250
- 3GB DDR2 memory
- 500GB hard drive
- Double-layer DVD±RW
- ATI Radeon HD 2600 XT (256MB)
- Integrated 19-inch LCD
- One-year warranty

Bottom Line
If you're a dyed-in-the-wool PC user who craves a system such as the Apple iMac to call your own, the Gateway One fits the bill–mostly. It's a sleekly designed, all-in-one entertainment PC that takes up a minimum of space. Just don't expect to be floored by its performance: This system turned in run-of-the-mill scores in our tests.

5

Shuttle XPC G5 3300G*

us.shuttle.com
$2,179 (as tested)
Editors' Rating: 7.0

Specs
- 2.66GHz Core 2 Duo E6750
- 1GB DDR2 memory
- 750GB hard drive
- Blu-ray/DVD±RW burner (also reads HD DVDs)
- nVidia GeForce 8600 GT (512MB)
- One-year warranty

Bottom Line
This stylish mini-PC from the pioneer of small-form-factor computers is solidly built, nicely designed, and configurable enough for productivity gurus, serious gamers, and media enthusiasts alike to enjoy. Unlike other Shuttle PCs, it's a bit too heavy to be considered truly portable, however.

✓ = Editors' Choice

TOP 5 BUDGET LAPTOPS

THESE DIVERSE PORTABLES COMBINE PERFORMANCE, FEATURES, AND AFFORDABILITY.

1

Asus Eee PC 4G
www.asus.com
$399 (as tested)
Editors' Rating: 8.0

Specs
- 900MHz Celeron CPU
- 512MB DDR2 memory
- 4GB solid-state drive
- No optical drive
- Integrated graphics
- 7-inch TFT screen
- 2 pounds
- One-year limited warranty

Bottom Line
A lightweight, super-small notebook, the Eee PC comes with enough power and preloaded apps to handle basic on-the-road productivity and communication needs, all at a bargain price. Sure, you'll sacrifice storage space, ergonomics, and Windows compatibility. But users who don't want to be weighed down—or refuse to empty their wallets—may find the Eee PC is a perfect machine for basic jobs.

2

HP Pavilion DV2660se
www.hp.com
$899 (as tested)
Editors' Rating: 8.0

Specs
- 1.5GHz Core 2 Duo T5250
- 2GB DDR2 memory
- 250GB hard drive
- Double-layer DVD±RW
- Integrated graphics
- 14.1-inch TFT screen
- 5.5 pounds
- One-year warranty

Bottom Line
In terms of speed, the Pavilion DV2660se is strictly a budget notebook: In our tests, performance was fine for typical productivity and multimedia chores, but not stellar. What sets this preconfigured system apart from the low-cost pack, however, are the extra features and stylish design that belie its $899 price tag.

3

Dell Inspiron 1525
www.dell.com
$749 (as tested)
Editors' Rating: 7.8

Specs
- 1.6GHz Dual Core T2330
- 2GB DDR2 memory
- 160GB hard drive
- Double-layer DVD±RW
- Integrated graphics
- 15.4-inch TFT screen
- 6 pounds
- One-year warranty

Bottom Line
The Inspiron 1525 improves on its predecessor, the popular Inspiron 1520, in almost every way. It shaves off a few ounces and inches, adds worthwhile new features, and puts more power under the hood, all while keeping the price reasonable. However you trick out this notebook, you're sure to be pleased by its travel-friendly dimensions, stylish design options, and nifty extras. Gamers, however, will definitely be disappointed with its sluggish integrated graphics.

4

Acer Aspire 7520-5115
www.acer.com/us
$899 (as tested)
Editors' Rating: 7.0

Specs
- 1.6GHz Turion 64 X2 TL-52
- 2GB DDR2 memory
- 160GB hard drive
- DVD±RW
- nVidia GeForce 8400M (256MB)
- 17-inch TFT screen
- 7.8 pounds
- One-year warranty

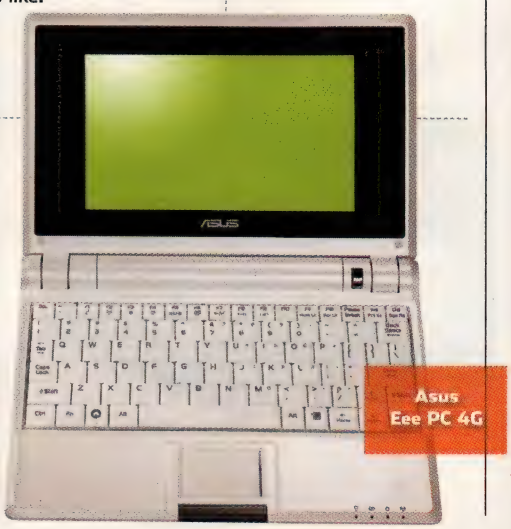
Bottom Line
The Aspire 7520-5115 offers fast components and ample memory while keeping the price low. It lags behind the competition in performance, though, especially in the graphics department. But for home and small-office users who spend more time in their desk chairs than they do on the road, there's plenty here to like.

5

Toshiba Satellite Pro A200-EZ2204X
www.toshibadirect.com
$899 (as tested)
Editors' Rating: 7.0

Specs
- 2GHz Core 2 Duo T7250
- 1GB DDR2 memory
- 120GB hard drive
- Double-layer DVD±RW
- Integrated graphics
- 15.4-inch TFT screen
- 5.9 pounds
- One-year warranty

Bottom Line
The Satellite Pro A200-EZ2204X is aimed at small- or home-office users who need a basic productivity machine at a good price. While Toshiba has cut some corners to get there—the 1GB of RAM and dull exterior come to mind—the system's features and performance are in line with other affordable notebooks.



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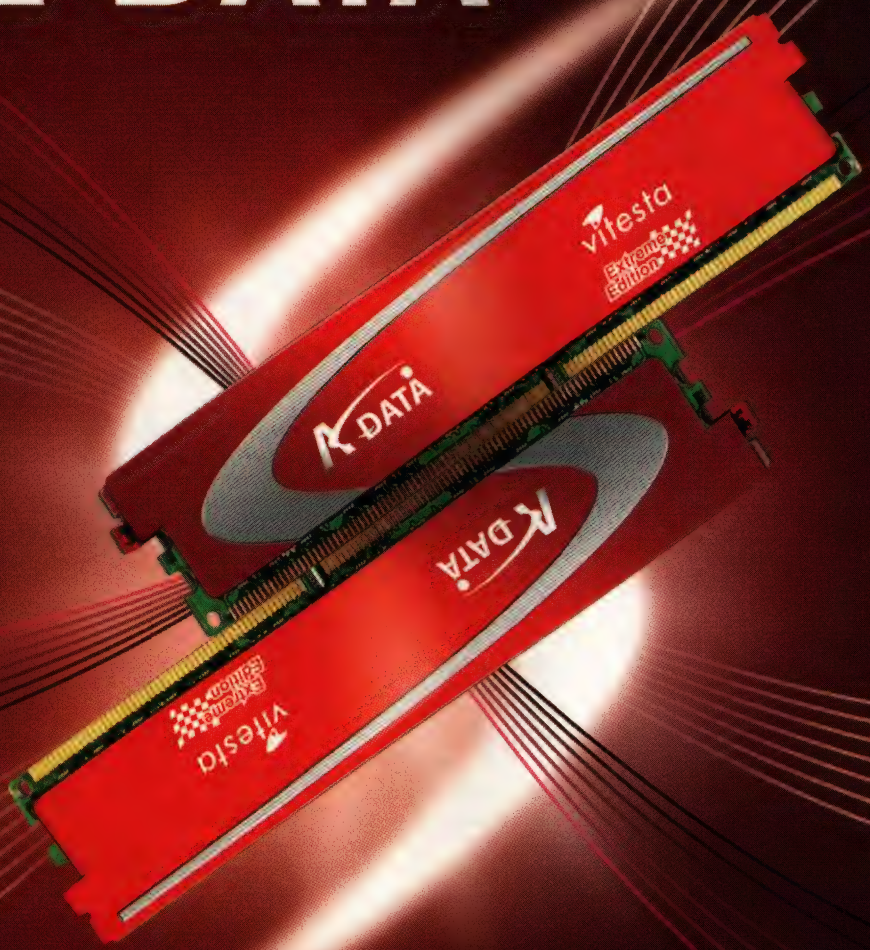

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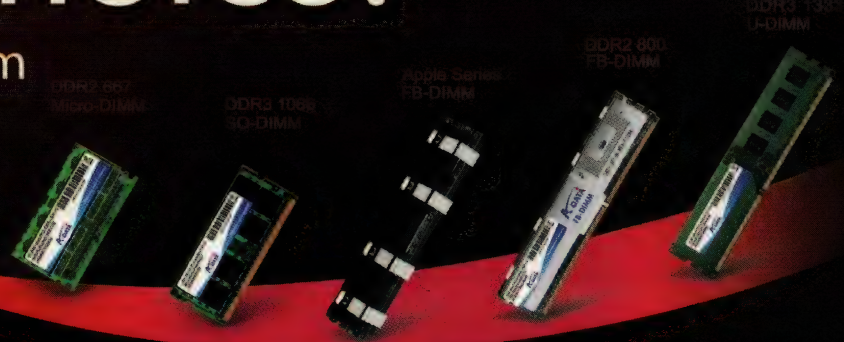

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TOP 5 SMARTPHONES

BRAINY DEVICES THAT DO MUCH MORE THAN YOUR AVERAGE MOBILE HANDSET.

1

AT&T Tilt
www.att.com
$399.99 (with two-year service agreement)
Editors' Rating: 8.3

Specs
- GSM network
- Carrier: AT&T
- Windows Mobile 6 OS
- 128MB RAM
- 2.8-inch, 320x240-pixel display
- Keyboard, stylus input
- 6.7 ounces

Bottom Line
The AT&T Tilt looks to be the carrier's most powerful smartphone for a long time. It may not have the mass appeal of Apple's iPhone, but its full range of wireless options, Windows Mobile 6, and innovative tilt screen make it a powerful (if heavy) tool for business users.

2

Nokia N95
www.nseries.com
$699.99
Editors' Rating: 8.0

Specs
- GSM network
- Carrier: None (unlocked phone)
- Symbian 9.2 OS
- 128MB RAM
- 2.6-inch, 240x320-pixel display
- Keypad input
- 4.3 ounces

Bottom Line
The N95's excellent performance and feature set make it the Swiss Army knife of smartphones. This Nokia has a high price tag, but for mobile addicts who only want the best—and have the means to pay for it—the N95 is still a pretty enticing offer.

3

RIM BlackBerry 8820
www.rim.com
$349.99 (with a two-year service agreement)
Editors' Rating: 7.7

Specs
- GSM network
- Carrier: AT&T
- Proprietary OS
- 64MB RAM
- 2.5-inch, 320x240-pixel display
- Keyboard input
- 4.7 ounces

Bottom Line
RIM's BlackBerry 8820 adds Wi-Fi to the mix while retaining the slim design, built-in GPS, and push-to-talk capabilities of the BlackBerry 8800. Alas, the bad parts remain as well, most notably the cramped keyboard and lack of 3G-network support. Still, there's so much smartphone power inside this device that it's easy enough to overlook those deficiencies.

4

RIM BlackBerry 8830
www.rim.com
$279.99 (with two-year Sprint service agreement), $299.99 (with two-year Verizon service agreement)
Editors' Rating: 7.7

Specs
- CDMA/GSM network
- Carriers: Sprint, Verizon
- Proprietary OS
- 64MB RAM
- 2.4-inch, 320x240-pixel display
- Keyboard input
- 4.7 ounces

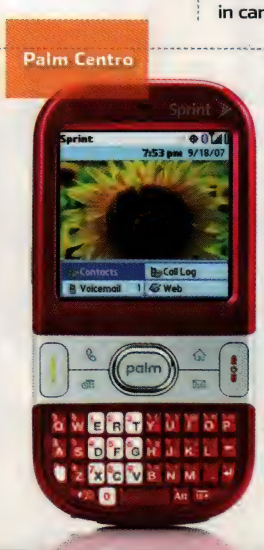
Bottom Line
For the globe-trotting executive, the BlackBerry 8830 is a powerful voice and messaging tool. Not only does this dual-mode CDMA/GSM smartphone give you freedom to make calls and receive e-mail around the world, but it also offers EV-DO support, multimedia capabilities, and solid performance. We just wish it came with a built-in camera as well.

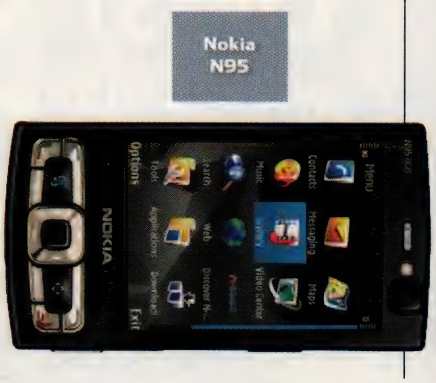
5

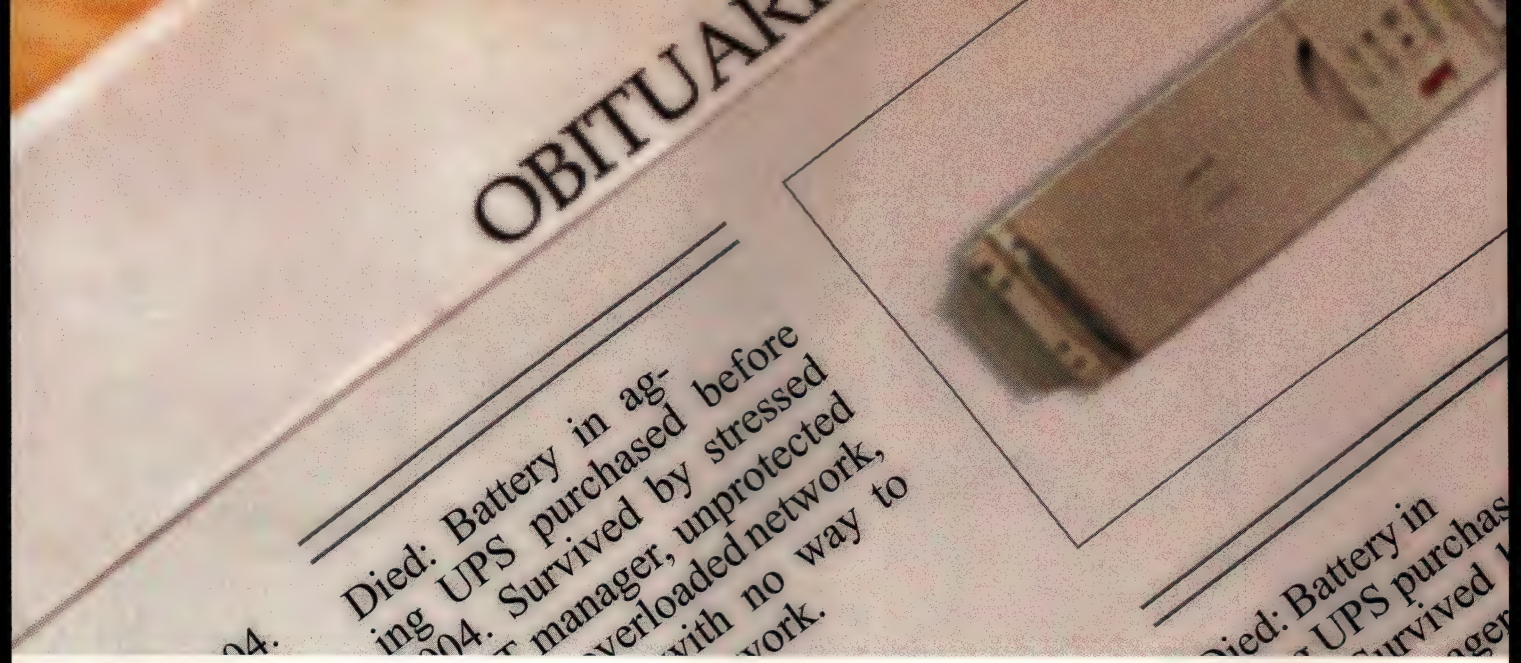
Palm Centro
www.palm.com
$149.99 (with two-year Sprint service agreement), $199.99 (with two-year AT&T service agreement)
Editors' Rating: 7.0

Specs
- CDMA/GSM network
- Carriers: AT&T, Sprint
- Palm OS
- 64MB RAM
- 2.6-inch, 320x240-pixel display
- Keyboard input
- 4.2 ounces

Bottom Line
A smartphone for folks on a flip-phone budget, the Centro offers all the power of a Palm Treo in a smaller, more affordable package. Though it has a few rough edges—a crowded keyboard and an antiquated operating system—the Centro packs in enough features to satisfy students, business users, and gadget lovers alike.







This year, an estimated 3.6 million UPSs will reach the end of their lives.

Is yours one of them?

A battery warning from your partner in reliability
When you bought your APC UPS, you chose it, and us, for our legendary reliability…because you wanted the best product available. So as the industry leader and your chosen partner, it's our job to inform you that an aging UPS battery puts your network reliability and your peace of mind at risk. If you are converging and consolidating your networks, upgrading your equipment, or deploying new servers, be warned: an older UPS simply cannot handle the increased loads and criticality — putting your entire network at risk of costly downtime, unsafe shutdowns, and data and equipment loss.

Luckily, there is a simple solution for renewed peace of mind — APC Trade-UPS. With the Trade-UPS program, you can trade in your aging UPS for a new unit and receive a 35% discount on your new purchase, plus more runtime and enhanced manageability of networked power and cooling. Not only will you see improvement in performance, you'll also see improvements in your utility bill.

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- serial number
- capacity in volt/amps (VA)
- number of units

Step 2: Choose what's best for you by
- price
- features
- capacity

Step 3: Checkout
- get up to 35% off the price of each new UPS
- new 2 year warranty
- FREE return shipping of old units
- FREE environmentally friendly disposal of your old UPS

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TOP 5 POINT-AND-SHOOT CAMERAS

COMPACT AND EASY TO USE, THEY'RE A GOOD CHOICE FOR CASUAL PHOTOGRAPHERS.

1

Canon PowerShot SD870 IS
usa.canon.com
$349.99
Editors' Rating: 8.5 ✓

Specs
- 8 megapixels
- 3-inch LCD
- 5.5 ounces
- SD/SDHC memory card

Bottom Line
The PowerShot SD870 IS is one of the best compact cameras we've used in a while. With excellent photos, a clutter-free interface, and responsive operation, the SD870 IS would be a great choice for users looking to purchase a pocketable camera requiring minimum fuss.

2

Canon PowerShot A650 IS
usa.canon.com
$349.99
Editors' Rating: 8.0

Specs
- 12.1 megapixels
- 2.5-inch LCD
- 10.6 ounces
- SD/SDHC memory card

Bottom Line
If you're looking for a good compromise between a point-and-shoot and a digital single lens reflex (dSLR) camera, then the A650, though a bit cumbersome and bulky, offers excellent image quality for a camera in its price range. Optical image stabilization and the 6x optical zoom provide added flexibility when shooting.

3

Casio Exilim EX-S880
www.casio.com
$249.99
Editors' Rating: 8.0

Specs
- 8.1 megapixels
- 2.8-inch LCD
- 4.5 ounces
- SD/SDHC memory card

Bottom Line
One of the better slim shooters we've tested, the EX-S880 has a ton of features and leaves us with only minor complaints. The camera comes loaded with modes optimized for shooting YouTube videos (including software that eases the upload process) and eBay pictures. It's a great all-around camera for users who document their lives on the Internet.

4

HP Photosmart R742
www.hp.com
$179.99
Editors' Rating: 8.0

Specs
- 7 megapixels
- 2.5-inch LCD
- 4.5 ounces
- SD/SDHC memory card

Bottom Line
Small and inexpensive doesn't have to be bad—the R742 is well-constructed and produces generally good-quality photos. The image stabilization, shooting modes, and context-sensitive help make this a worthy pick for a beginning digital photographer.

5

Panasonic DMC-FX33
www.panasonic.com
$299.95
Editors' Rating: 8.0

Specs
- 8.1 megapixels
- 2.5-inch LCD
- 5.4 ounces
- SD/SDHC memory card

Bottom Line
Though most compact cameras' automatic settings do a good job in fairly typical conditions, they often produce substandard results in more-unusual shooting situations. Panasonic's DMC-FX33 tackles this issue with its Intelligent Auto mode, which analyzes the subject and adjusts the shooting settings to match, so it takes better point-and-shoot photos than your typical pocket camera.

✓ = Editors' Choice

TOP 5 EXTERNAL HARD DRIVES

STORE AND BACK UP FILES WITH ONE OF THESE VERSATILE DRIVES.

1

Maxtor OneTouch 4 Mini
www.maxtorsolutions.com
$149.99
Editors' Rating: 7.8

Specs
- 160GB capacity
- 5,400rpm spin rate
- 8MB cache
- USB 2.0
- Windows XP or Vista; Mac OS X 10.4.7 or later

Bottom Line
If you're in the market for a robust, portable device that lets you store, organize, and share various types of files, check out the OneTouch 4 Mini. Its size and the fact that it's bus-powered make it a perfect companion for your laptop. It's a fast data writer and comes bundled with backup and restore software.

2

Seagate FreeAgent Go
www.seagate.com
$79.99
Editors' Rating: 7.5

Specs
- 80GB capacity
- 5,400rpm spin rate
- 8MB cache
- USB 2.0
- Windows 2000 or later; Mac OS X 10.3.9 or later

Bottom Line
Sleek-looking and extremely portable, the FreeAgent Go provides fast transfer speeds. But what sets it apart from other compact external drives is its preloaded software, which lets you take your Windows desktop environment—including bookmarks, settings, and passwords—with you and load them on another PC.

3

TrekStor DataStation Maxi T.uch
www.datastation.us
$159.99
Editors' Rating: 7.5

Specs
- 250GB capacity
- 7,200rpm spin rate
- 8MB cache
- USB 2.0
- Windows 98SE or later; Mac OS X 10.3 or later; Linux 2.6 kernel or later

Bottom Line
While you won't find the Maxi T.uch a groundbreaking product, it's worth checking out if you're looking for an external drive with the convenience of a built-in memory-card reader and USB hub. If you need more hard drive space and USB ports, as well as a way to transfer photos from your camera's memory card without a PC, this multifunction drive has you covered.

4

LaCie Ethernet Big Disk
www.lacie.com
$319.99
Editors' Rating: 7.4

Specs
- 1TB capacity
- 7,200rpm spin rate
- 16MB cache
- USB 2.0
- Windows 98SE or later; Mac OS 9 or OS X 10.2 or later; Linux 2.4 kernel or later

Bottom Line
The Ethernet Big Disk is versatile, delivering a terabyte of storage as either a network-attached-storage device or a standard external hard drive. Either way, it's one solid chunk of hard drive, housed in an attractive, solid aluminum alloy case designed to dissipate heat. It can stand upright (LaCie includes a stand kit), lie horizontally, or be rack-mounted.

5

Maxtor OneTouch 4 Plus
www.maxtorsolutions.com
$289.99
Editors' Rating: 7.0

Specs
- 750GB capacity
- 7,200rpm spin rate
- 16MB cache
- USB 2.0
- Windows XP or Vista; Mac OS X 10.4.7 or later

Bottom Line
The OneTouch 4 Plus is the latest offering in the Seagate-owned company's line of simplified backup products designed to reduce saving your most important files to, well, one touch. The good news is that the technology has really made it that easy; some files and folders might get left out, however.

We try to break them, so you don't have to.

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By Sean Portnoy

25 Free Downloads You Need Now

TRY THESE GREAT APPS TO HELP YOU SPEED UP YOUR SYSTEM, CLEAN UP YOUR HARD DRIVE, AND MORE—ALL WITHOUT SPENDING A SINGLE PENNY.

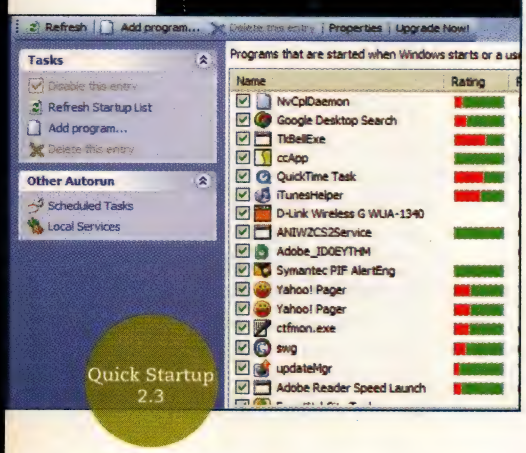
In years past, we've offered a feature on 50 free downloads, but don't think we're giving you only 50 percent of the value of previous editions. • Listing 50 downloads required us to do things like naming three or four different poor-man's Photoshop apps and recommending freeware games that were awesome, but weren't really going to replace World of Warcraft or Company of Heroes. (All of these, plus thousands of other freebies, are always available at **computershopper.com/downloads** *if you're missing them here.) • For the 2008 edition, we decided to streamline our approach and focus on free software that you will find valuable for overall system maintenance, whether that means tidying up the Registry, tweaking performance, getting file libraries in order, or other common tasks. These tune-ups are especially helpful for aging computers, and you won't even have to open the case or replace any hardware. • If you're craving even more information about downloads, check out our special section online at* **computershopper.com/114** *for some extras that couldn't fit in our print issue. We also offer a monthly e-mail newsletter highlighting five great free downloads; sign up for it at* **computershopper.com/115**.

Start me up

We love any program that can help speed up boot times, because—let's face it—we use Windows. Here are a few apps that can make system loads a little less sluggish.

Quick Startup 2.3

As you're probably well aware, lots of Windows applications take the opportunity to load themselves when you start your PC, whether you want them to or not. Quick Startup shows you all those programs gumming up the works, then allows you to disable the ones you don't really need to launch at startup.



TweakNow RegCleaner Standard 3.0.1

A bloated Windows Registry file can cause slow boot-up times and sluggish performance, but manually monkeying with your PC's Registry can wreak havoc on your system. TweakNow RegCleaner Standard quickly scans your Registry to find and delete obsolete entries left behind by programs you've uninstalled—and just to be on the safe side, it creates a backup of your Registry file before it changes anything.

Free Registry Defrag 2.35

Another quick way to give your system a performance boost is to close up the gaps in your Registry file caused by scattered data. That's where Free Registry Defrag comes in. It compacts and optimizes your Registry (though it doesn't remove invalid entries), and it even runs on Windows Vista.

Revo Uninstaller

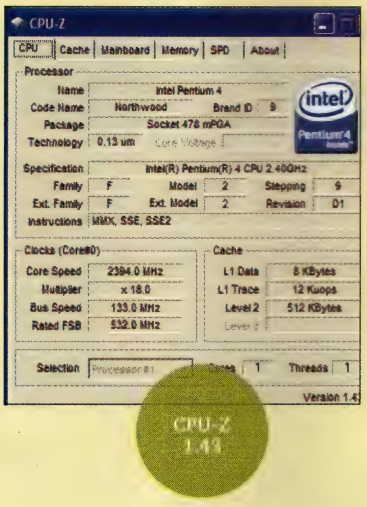
After using Quick Startup 2.3, you may find apps on your system that you no longer need (or never wanted in the first place). Revo Uninstaller goes beyond what Windows does with its Add/Remove Programs function, cleaning up any remnants of a removed app (like Registry entries) that Windows might otherwise miss. It also gathers files related to broken applications so you can clean them off your system.

Tweak tools

If you're attempting something like overclocking your PC, you need to know what's going on inside your computer's case. Here are utilities that can give you a system snapshot, and a couple more that will improve everyday performance.

CPU-Z 1.43

A tweaker's godsend, CPU-Z can tell you everything about your PC's core components, from basic specs like processor name and RAM amount to overclocking essentials such as clock multiplier and voltage settings. If you want to find out what's going on under the hood of your machine, CPU-Z is essential.



SpeedFan 4.28

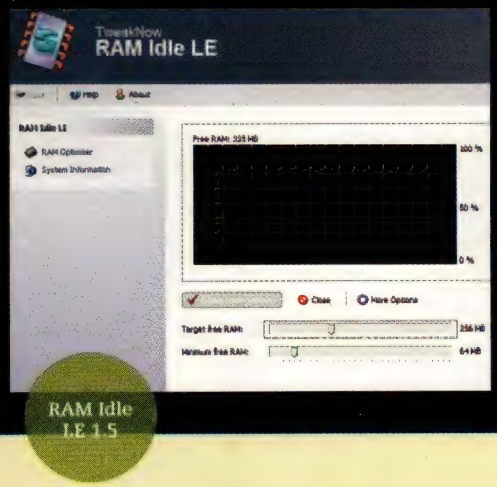
SpeedFan is still one of the best ways to monitor the temperature of components you've overclocked (like your processor); it can also control your fan speeds throughout the interior of your case. If your hard drive includes Self-Monitoring Analysis and Reporting Technology (SMART), SpeedFan may be able to read your drive's temperature, and on select hardware, this utility can even change the front-side-bus speed.

Belarc Advisor 7.2t

Belarc Advisor offers PC users the convenience of a full-system scan and a handy hardware and software diagnostic report. It identifies the components in your PC—CPU, motherboard, RAM, hard drives, etc.—and detects weaknesses in your system's security. Advisor can also tell if you have Windows vulnerabilities that require running a patch, whether your antivirus software is up to date, and which Microsoft hotfixes your system is missing. It will then create an HTML file of its report so you can easily view it in your Web browser.

Process Explorer 11.04

It might have the least-sexy name of any software ever created, but if you're a hardcore system mucker frustrated with the limitations of Windows' Task Manager, Process Explorer is the utility for you. Its improvements over Task Manager include displaying icons that are associated with processes and listing any DLL that a process has loaded. It works with every version of Windows, from Windows 95 up to (and including) Vista—even the 64-bit version.



RAM Idle LE 1.5

Give your PC a speed boost by making it allocate available system memory more efficiently. RAM Idle can automatically balance available RAM with the needs of the programs you're running; it also allows you to manually earmark a certain amount of memory for a particular application. If you can't add more RAM to your system, RAM Idle is a no-cost answer to memory bottlenecks.

FILE UNDER:

Essential

Getting control of the countless files on your computer can be a frustrating chore that never seems to end. These apps will make taming them a little bit easier.

TrueCrypt 5.0

TrueCrypt lets you create a virtual encrypted disk within a file and mount it as a real disk. You can encrypt an entire hard drive partition or a removable storage device such as a USB flash drive. This latest version adds a pre-boot authentication system that requires users to enter a password before the system loads up.

TrueCrypt Volume Creation Wizard
TrueCrypt Volume Creation Wizard
TRUECRYPT
Create a file container
Creates a virtual encrypted disk within a file. Recommended for inexperienced users.
More information
Create a volume within a non-system partition/device
Formats and encrypts a non-system partition, entire external or secondary drive, entire USB stick, etc.
Encrypt the system partition or entire system drive
Encrypts the partition/drive where Windows is installed. Anyone who wants to gain access and use the system, read and write files, etc., will need to enter the correct password each time before Windows boots (starts).
More information about system encryption
Help
< Back
Next >
Cancel
TrueCrypt 5.0

Vunet Find

Vista's improved desktop search function is an upgrade over those in previous versions of Windows, but it won't help if you're running XP or an earlier incarnation. For those who are Vista-less, there's Vunet Find, which searches all the files on your hard drive the first time it loads, then periodically updates its index—instead of performing a full hard drive search each time, as Windows Explorer does.

Recover Files 2

Is anything more annoying (or, in some cases, terrifying) than deleting a file by accident and being unable to retrieve it? Usually, the file is not actually gone—and a free utility like Recover Files 2 can help you get it (and your sanity) back. Whether you deleted something from the Recycle Bin, Windows Explorer, or even a flash-memory card, this software can recover it.

CCleaner 2.05.555

Don't let the drab name fool you: CCleaner is one utility you'll find indispensable. This app rids your system of temporary files from Windows and Internet browsers that fill up your hard drive for no good reason. Plus, it provides a Registry cleaner that removes outdated entries that may be slowing down your PC. It can even remove temporary files from third-party programs such as Microsoft Office, Adobe Acrobat, and WinZip.

DoubleKiller 1.6.2

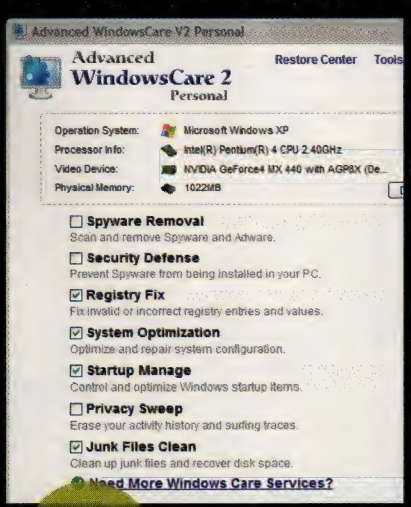
One of the many annoyances of using a computer for several years is the buildup of duplicate files on your hard drive—you can't see them, but you know they're there. The Windows search function won't cut it, but DoubleKiller 1.6.2 can do the job. As its name suggests, the utility's mission is to quickly find doubles in your file library so you can decide whether to delete the copy or not. DoubleKiller also lets you search by file type, which makes it easy if you just want to clean up your MP3 collection.

Doing it all

These two packages include multiple pieces of free software that can protect, clean up, or otherwise improve your system.

Advanced WindowsCare Personal 2.6

One of our favorite paid system utilities is System Mechanic Professional, which diagnoses and fixes PC problems and helps keep your computer secure. For a free alternative that provides many of the same tools, try Advanced WindowsCare Personal. With just a couple of mouse clicks, you can find and remove spyware, detect and fix Registry errors, clean up your startup process, and delete junk files. A $29.95 upgrade to the Professional version gives you always-on, automatically updated PC protection.


Advanced WindowsCare V2 Personal
Advanced WindowsCare 2 Personal
Restore Center
Tools
Operation System: Microsoft Windows XP
Processor Info: Intel(R) Pentium(R) 4 CPU 2.40GHz
Video Device: NVIDIA GeForce4 MX 440 with AGP8X (De...
Physical Memory: 1022MB
Spyware Removal
Scan and remove Spyware and Adware.
Security Defense
Prevent Spyware from being installed in your PC.
Registry Fix
Fix invalid or incorrect registry entries and values.
System Optimization
Optimize and repair system configuration.
Startup Manage
Control and optimize Windows startup items.
Privacy Sweep
Erase your activity history and surfing traces.
Junk Files Clean
Clean up junk files and recover disk space.
Need More Windows Care Services?

Advanced WindowsCare Personal 2.6

UBCD4Win 3.12

If you want a Swiss Army knife of system utilities that you can burn to a bootable CD, UBCD4Win is loaded with everything, from Internet security apps like Spybot Search and Destroy to file utilities and Registry programs to disk tools like MbrFix (see p. 68). As you might expect, the download file is very, very large (over 200MB), and the package sometimes shows up as a false positive in antivirus software—but for a no-cost bonanza of useful software, these are minor issues.

Drive time

You always hear about how your processor or amount of RAM will impact your system's speed, but a fragmented, overstuffed hard drive can be a drag on performance as well. **Give your disk a little TLC with these drive-related utilities.**

WinDirStat 1.1.2

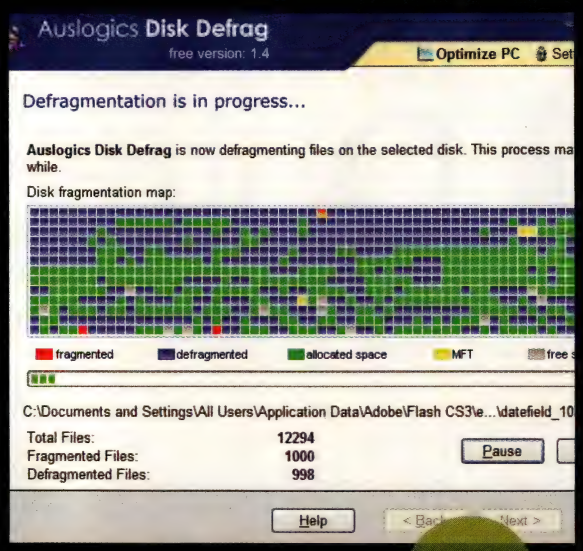
One way to figure out what's been eating your hard drive space is to determine which file types you have the most of. WinDirStat scans your drive and displays each file type in a different color to show you how your disk usage is apportioned. Once you see that you have far, far too many MP3 files for your system's good, for example, WinDirStat helps you cut things down to size. It's even clever enough to let you delete files without having to send them to the purgatory of the Recycle Bin first.

Advanced Disk Cleaner 5.0

All kinds of junk files accumulate on your hard drive over the years, but who has time to fish around and delete them? Advanced Disk Cleaner makes such pruning easy. Click a search button, look at the list of garbage files, and then click the Clean button to delete them. The program also has an editing utility to get rid of unnecessary apps lingering in your Windows Registry.

MbrFix 1

With its throwback interface (think command lines and neon-green text), this master-boot-record (MBR) app screams, "Advanced users only!" But brave tweakers will find MbrFix useful for such things as deleting Linux partitions from a dual-boot setup, saving your MBR to a file (and then restoring it from a file), and creating a disk signature.



Auslogics Disk Defrag 1.4.11.275

Auslogics Disk Defrag 1.4.11.275

For those who don't know, defragging your hard drive—joining fragmented data pieces back together—can lead to improved disk performance. For those who do know, defragging can take hours and hours to perform on older, highly fragmented drives. Auslogics' Disk Defrag utility helps speed things up by defragging faster than other, similar apps; it also outputs a summary in HTML format that lets you know which files and folders were defragged and how they were altered.

GParted LiveCD 0.3.4-7

This is another great collection for drive experts and Linux lovers. As its name suggests, GParted LiveCD is a set of partition utilities you can burn to disk and run as a Linux-based LiveCD. GParted lets you do almost anything with partitions, including creating, deleting, and copying them. Depending on your drive's file system, you can also increase or decrease the size of a partition. The download comes as an ISO file, so you'll need a program that can burn ISO files to disc. If you don't have one, check out our next download.

Gizmo Drive 2.5.11

While the latest version of this program adds the ability to burn ISO files to disc, it's best known for its ability to mount drive images (like ISO, VSD, and BIN formats) as virtual devices, which will appear in Windows Explorer like a physical drive. This will come in handy, performance-wise, if you otherwise have to run apps from an optical drive. You can even encrypt drive images with Gizmo Drive.

Productivity BOOSTERS

Now that you've reenergized your PC with the other downloads, here are a handful of apps that will make your daily computing life more efficient.

PDF SpeedUp 1.32

PDF files are a great way to send documents to anyone on the Internet, but Adobe has created a bit of a monster with its browser-crashing Acrobat Reader software. PDF SpeedUp eliminates some of the annoying bottlenecks that can stop your Web browsing dead in its tracks, letting you decide which Acrobat plug-ins should be enabled and allowing you to switch off the relentless updater function. You can even stop Acrobat Reader altogether from integrating with your browser.

Desktop Sidebar 1.1.3

One of Windows Vista's coolest features is Sidebar, to which you can affix mini-apps (or Gadgets, in Microsoft-speak) such as a clock, an RSS-feed reader, or stock tickers. If you're still using Windows XP (or Windows 2000), you can download Desktop Sidebar and enjoy many of the same features offered by the Vista version. Always visible on your desktop, this utility can display task lists, weather forecasts, a calendar, and even a shortcut to Skype's Internet phone service.

Jamie Bsales also contributed to this article.

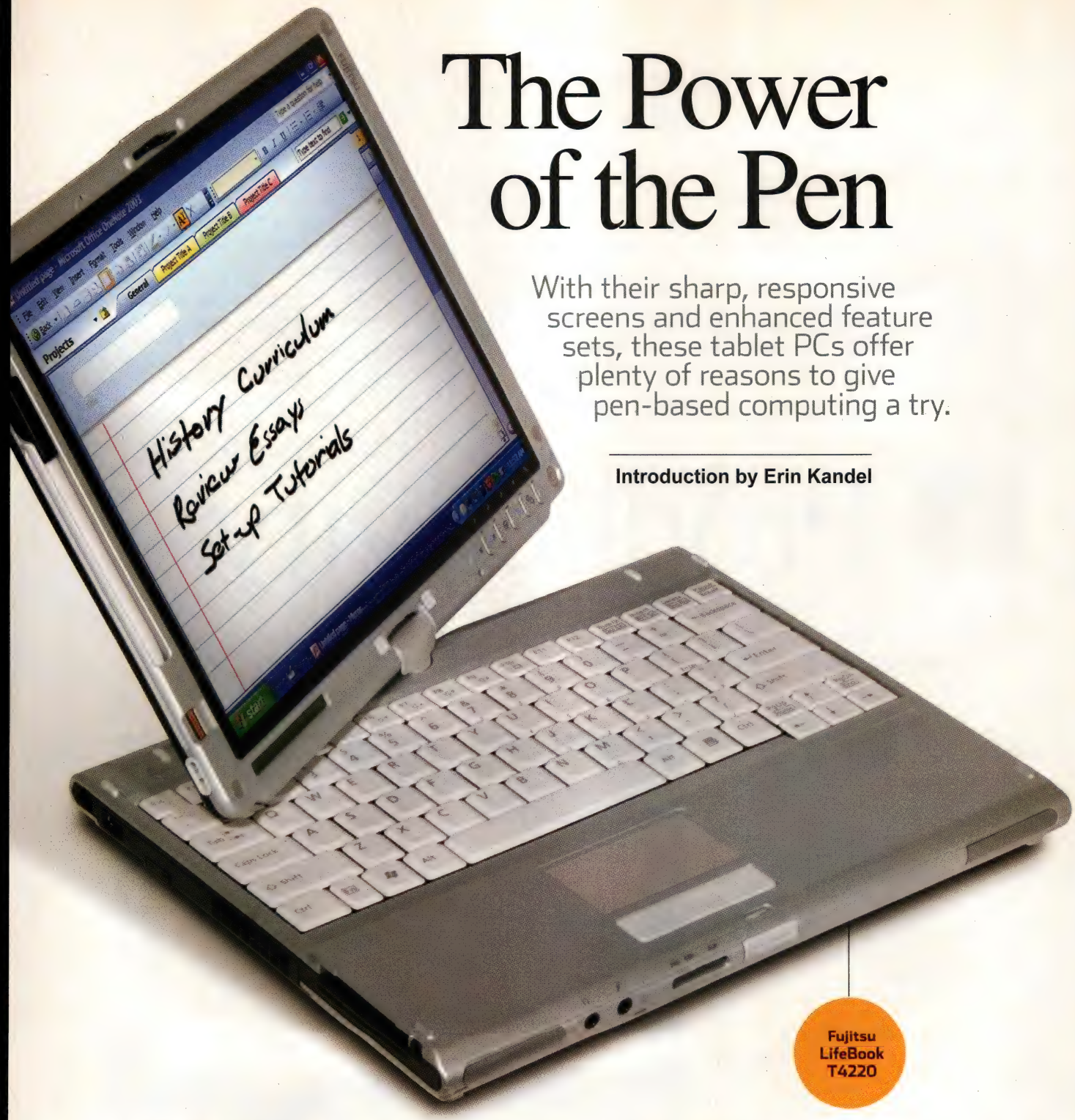
ScreenHunter 5 Free

This app takes the pain out of grabbing screen captures, making it simple to determine which area of the screen you want to capture, then saving it to BMP or JPG format. It also gives you a choice of two different hotkey options, so screen grabs are just one button away.

The Power of the Pen

With their sharp, responsive screens and enhanced feature sets, these tablet PCs offer plenty of reasons to give pen-based computing a try.

Introduction by Erin Kandel



REMEMBER WHEN TABLETS seemed all but dead? Mired in Microsoft's lackluster XP Tablet Edition OS and derided for their inaccurate handwriting recognition and touchy screens, pen-based portables didn't enjoy much popularity outside of vertical markets in their early years. Finally, Microsoft's Windows Vista OS came to the rescue with its integrated tablet functionality and streamlined features. Pair that with enhanced pen-screen technology and you have the next generation of tablets: more functional and more appealing to the masses.

That said, tablet PCs are still largely targeted toward professionals who use custom pen-aware apps at work—doctors, warehouse personnel, and field employees, to name a few. But today's convertible notebooks (that is, systems that can switch between a slate and a regular laptop) have the potential to attract mainstream buyers. Among those

who would benefit from pen input on their PCs are students who prefer to jot handwritten notes in class, couch potatoes who like to surf the Web in the living room, and business users who need to convert memos into digital documents while on the road.

In our roundup, we put styli to the screens of convertible notebooks from four manufacturers—Fujitsu, Gateway, HP, and Toshiba—to see if the latest tablets handle everyday pen-based tasks better than their predecessors. (We also took a quick look at a new tablet from Dell that wasn't available for testing at press time.) Though the systems we examined varied in terms of size, feature sets, and scores on our benchmarks, all performed very well where it counts the most: in slate mode. Top-notch handwriting recognition, trouble-free pen-based navigation, and productivity-improving extras were consistent across the board. What's more, each system brought its own standout features to the table, whether they were enhanced media functionality, security add-ons, or a budget price. In addition to hands-on reviews, we've also included a few shopping tips to help you pick your perfect tablet.

Fujitsu LifeBook T4220

Editors' Rating: 7.5 out of 10

Pros: Bright, 12.1-inch LCD; lots of security options; excellent digitizer; bidirectional screen hinge; modular bay for extra battery; good performance

Cons: Clunky design; mediocre battery life; weak speakers

Specs: 2.2GHz Core 2 Duo T7500; 1GB DDR2; 60GB hard drive; modular DVD±RW; 12.1-inch TFT; integrated Intel GMA X3100; Windows Vista Business Edition

Direct Price: $2,119

THE FUJITSU LIFEBOOK T4220 offers loads of mobile computing flexibility in a fairly compact and lightweight package. The convertible notebook is designed to fluidly switch between full laptop and tablet PC, keeping everything you need within reach. The screen's active digitizer is a pleasure to use, and our review configuration offered ample power for business tasks. Plus, it's loaded with security options to keep your data safe. The only thing we didn't like was this notebook's overall look, but it wouldn't keep us from recommending what is otherwise a fine piece of hardware.

First Take: *Dell Latitude XT*

A good sign that the tablet PC market could be on the rise came last December when Dell announced it was releasing its first convertible portable, the Latitude XT. Unfortunately, Dell wasn't able to get us a review unit to test in time for this story, but the company's reps did provide a demo—and the swiveling system looked promising.

Dressed for business in button-down black, the Latitude XT should be easy to carry with its 3.6-pound chassis, which packs a 12.1-inch rotating display (including an optional LED-backlit LCD panel), and full-size keyboard with a tactile pointing stick, but no optical drive. You also get a number of user-experience improvements for the pen-based panel; namely, a digitizer that supports both pen and capacitive touch technology. The latter senses the touch of a finger with no pressure required for the system to recognize input. Dell says it's the first step toward a Windows-based replication of Apple's intuitive multi-touch capabilities (like those seen on the iPhone and the MacBook Air) that allow the use of more than one finger for zooming and tasks such as repositioning a picture. The Latitude XT also includes advanced digital palm-rejection technology, which helps prevent inadvertent contact from disrupting pen input, as well as a battery-free pen with eraser and right mouse-click functionality.

Prices start at a somewhat-high $2,499 for systems with Intel Core Solo and Core 2 Duo ULV CPUs, up to 64GB of solid-state storage (or up to a 120GB hard drive), an LED or daylight-viewing-capable LCD, and ATI Radeon X1250 UMA integrated graphics. Like all Dell notebooks, the Latitude XT can be configured with a wireless mobile broadband (WWAN) radio and Bluetooth in addition to 802.11b/g Wi-Fi. Dell is also selling an optional $170 media base for docking and optical media, as well as a $249 nine-cell battery slice, which will purportedly extend off-the-plug runtime to 9.5 hours. *—E.K.*

The notebook's bidirectional hinge allows you to swing the bright 12.1-inch display left and right, making it easier to show others the screen—and to quickly switch the notebook into a tablet PC without thinking about swivel direction. More important, the screen has one of the best digitizers we've had the privilege of using. With the included pen, you can easily and accurately jot down notes, navigate files and applications, and use Microsoft's flick gestures. The screen is pressure-sensitive as well, so the harder you press, the thicker the line. We rarely had to make a correction when writing in cursive, despite our increasingly miserable handwriting.

At 9.3x1.4x11.5 inches and a little less than 5 pounds, the T4220 is borderline ultraportable; it's certainly compact enough for frequent travel. Unfortunately, the overall look and feel of the convertible tablet is clunky, especially in comparison to the competition. It feels solid and plasticky at the same time, with almost every surface occupied by a port, input, fan vent, or button jutting out from the chassis. Even the latch to secure the lid in notebook or tablet mode is clumsy—despite being a convenient addition.

On the upside, the T4220 has just about every port you'll need, as well as 802.11 a/b/g/n Wi-Fi and Bluetooth. There's no shortage of security options, either. The chassis has two lock slots, a Smart Card slot, an embedded Trusted Platform Module (TPM) 1.2, password protection for the hard drive and BIOS, and a set of quick-launch buttons that doubles as a combination lock. A fingerprint sensor is built into the display's frame as well.

Overall performance was quite good and should more than satisfy the needs of most business users. The notebook's 2.2GHz Core 2 Duo T7500 processor, backed by 1GB of 667MHz DDR2 RAM, a 5,400rpm 60GB hard drive, and integrated Intel GMA X3100 graphics, churned out an impressive 4,126 on Futuremark's PCMark05. Applications opened and operated reasonably fast, and media playback was smooth (though audio was weak coming from the front-facing stereo speakers).

With power-management features disabled, our T4220 managed a mediocre one hour and 26 minutes on our DVD drain test. Want some extra time off the plug? One of the nicest features on this system is its modular drive bay. Ours came filled with a DVD±RW optical drive, but you can swap it out for Fujitsu's $134 modular six-cell battery—or pop in a spacer that saves some travel weight.

Gateway C-141X

Editors' Rating: 7.2 out of 10

Pros: Easy to convert to and from tablet form factor; bright screen; large pen stylus; low price

Cons: Heavy; lacks newer Core 2 Duo technology; mouse buttons can be hard to activate

Specs: 1.6GHz Pentium Dual Core T2330; 2GB DDR2; 160GB hard drive; DVD±RW; 14-inch TFT; integrated Intel GMA X3100; Windows Vista Home Premiumn

Direct Price: $999.99

The $999.99 Gateway C-141X doesn't offer the flashiest case or top-of-the-line hardware, but it's an excellent performer both as a tablet PC and as a notebook, especially considering its sub-$1,000 price. Just be aware that this 14-inch system weighs more than your average tablet PC.

With its basic matte-black finish and boxy frame, the C-141X is not the most

intel Core 2 Extreme inside
Hard core. Quad-core.

ULTIMATE X MAGNUM

Image shown may be with upgraded options

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- 4GB (4x 1GB) Corsair XMS3 DDR3 1333 (PC3 10600) Memory
- 2x ATI® Radeon™ HD 2900XT 1GB 512-bit GDDR4 VIVO Video Cards, Crossfire enabled
- 2x Western Digital Raptor 150GB 10,000RPM 16MB Cache Hard Drives in RAID 0 (300GB Total)
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eye-catching system we've seen. It also loses points in the portability department. The notebook's 14-inch screen and rear-protruding eight-cell battery add up to a 1.3x13.6x10.5-inch footprint and a weight of 6.2 pounds; that's bulkier than many tablets on the market (and the heaviest in our roundup). The extra heft is definitely noticeable in slate mode—the system can get uncomfortably heavy when you carry it around for extended periods of time.

Design quibbles aside, the C-141X performs very well as a tablet. The screen will accept input only from a stylus, and the included model from Wacom is one of the best we've ever used. About the thickness of a standard pencil, it feels sturdier than other models, and we found it completely natural both to point and to write with the device.

The pen-based panel, with its built-in digitizer, offers excellent accuracy, and handwriting recognition was spot on, even without training. Within 10 minutes of testing the tablet input, we were able to enter Web addresses and strings of text with great precision and speed. One caveat: When you rotate the screen, the C-141X doesn't automatically change its display orientation; you have to adjust it manually using a hotkey built into the display bezel. When watching DVDs, the notebook's wide-screen, 1,280x768-resolution display is bright and provides a sharp, clear picture. The viewing angle is also impressive; a few people could huddle around this screen without a problem. (This is also a plus in tablet mode, where you may hold the system at odd angles for others to see the screen.)

The C-141X's full-size keyboard is comfortable to type on, and we appreciate that the large touch pad includes a delineated vertical scroll area. Strangely, the mouse buttons are split so that the right is slightly smaller than the left; more notably, we found both buttons a bit stiff and hard to press.

Gateway does not offer hardware configuration options for the C-141X, and at press time, the system was not available with Intel's latest Core 2 Duo processors, only the older 1.6GHz Pentium Dual-Core T2330 CPU that came with our review unit. (Gateway refreshes its configurations every few months, so this may soon change.) While that CPU certainly won't satisfy power users, when coupled with 2GB of RAM, it has more than enough oomph to handle everyday tasks like Web browsing, word processing, multimedia playback, and tablet input. In fact, despite its scaled-down clock speed, the C-141X managed to keep up with the Core 2 Duo-based tablets such as the Toshiba Portégé M700, as well as comparably priced budget notebooks.

The notebook's bulky eight-cell battery definitely paid off in our grueling DVD rundown test: The C-141X lasted 2 hours and 55 minutes, which is an excellent score for a midsize notebook. —*Shane McGlaun*

HP Pavilion TX2000z

Editors' Rating: 7.6 out of 10

Pros: Convenient convertible form factor; bright screen; thoughtful design touches; good performance for a thin-and-light

Cons: Digitizer detracts from screen sharpness; a touch heavy for prolonged tablet use

Specs: 2.3GHz Turion 64 X2 TL-66; 2GB DDR2; 160GB hard drive; double-layer DVD±RW; 12.1-inch TFT; integrated nVidia GeForce Go 6150; Windows Vista Home Premium

Direct Price: $1,344.99

LESS THAN A YEAR after introducing the consumer-oriented HP Pavilion convertible tablet, the company has followed up with the improved Pavilion TX2000z. Like other 4.5-pound portables, the TX2000z won't win any benchmark street races. But it does deliver enough power for typical productivity and multimedia chores, and

Tablet PC Shopping Tips

Consider screen size and portability.

Tablet PC screens can be as small as 8.9 inches or as large as 15.4 inches. The smaller the screen, the more portable the system will be; the trade-off is that accurately selecting menu icons and other items on an itty-bitty display can be tough. Likewise, while tablets with bigger screens require less prodding with the stylus, you may wind up with a heavy machine that isn't comfortable to use as a slate for long stretches. Go with a notebook that has a display size and system weight that strike an appropriate balance, based on your needs.

Choose a digitizer over a touch screen.

Touch screens react to input from a stylus or finger only when pressure is actually applied to the screen's surface, making writing onscreen more difficult (it's natural to lift the pen at the end of strokes) and navigation less precise. Look for notebooks that feature a digitizer, which can sense when the stylus is hovering over the screen and also register different strokes based on the amount of pressure with which you write. Be aware, though, that in some systems, the digitizer may detract from the screen's overall clarity.

The more apps, the better.

The Windows Vista and XP Tablet PC Edition operating systems offer some built-in pen-aware features, such as the Tablet PC Input Panel—for adding notes to documents—and handwriting-to-text technology. These areas will cover the basics, but if you want enhanced functionality out of the box, look for a system that comes with bundled applications for pen input, such as Microsoft OneNote or EverNote 2.2.

Don't forget, it's a laptop too.

Most mainstream consumers will use their tablet PCs as regular laptops as much as (if not more than) slates. To make the transition between the two modes seamless, ensure that standard notebook features such as the keyboard, touch pad, and port selection are to your liking. If you plan to use your system as a media center, check to see how well the pen-based screen handles video and audio playback. *—E.K.*

it converts to a tablet when you're tired of being a slave to the QWERTY master.

The TX2000z adheres to the Pavilion line's glossy black-and-silver design theme (here with the "Echo" imprint pattern). The 12.1-inch wide-screen display means there's room for a full-size keyboard; we also love the touch pad, a recessed rectangle of dimples in the palm rest that looks (and feels) terrific. The mouse buttons are a bit small, but manageable. The TX2000z also comes with ExpressCard and memory-card slots, three USB ports, VGA and S-Video connectors, 802.11 a/b/g/n Wi-Fi, and a 160GB hard drive.

The biggest upgrade from the TX1000 is the addition of a true digitizer; the older model had a simpler touch screen. The digitizer on the TX2000z works very well, and we were able to navigate even tiny menu choices and icons on the 1,280x800 screen precisely and quickly. The digitizer does have a drawback, however: It lends a grainy effect to the otherwise bright, sharp screen that takes some getting used to. And while we're on the subject of the screen, we wish it had a more forgiving viewing angle. If you don't have the screen perpendicular to your line of sight (or within a narrow range), you'll see either a drop-off in brightness or (with DVD movies) a positive-to-negative shift. This change occurs less when you're in notebook mode, but in tablet mode you have to keep adjusting the machine's position to maintain the optimum angle.

The machine's weight also might force you to do some fidgeting. Even though the TX2000z is lightweight for a notebook, it can get heavy in a hurry as a tablet if you're holding it in the crook of your arm.

The TX2000z comes with Windows Vista Home Premium, which includes Microsoft's Tablet PC functionality as well as its Media Center capabilities. The handy Input Panel utility adds handwritten notes to an open document, converts written characters to text, and provides an onscreen keyboard.

As for performance, the TX2000z is good for its class. The 2.3GHz AMD Turion 64 X2 TL-66 CPU and 2GB of RAM helped the unit score 3,700 on Futuremark's PCMark05 and 593 on Cinebench 9.5, both of which are above average among ultraportables. (HP no longer offers this processor as an option. Our price reflects a 2.4 GHz AMD Turion 64 X2 TL-68 CPU.) The machine needed just over 9 minutes to finish our Windows Media Encoder 9 trial, and 5 minutes and 37 seconds for our iTunes conversion test—again, pretty good for a small machine. It managed a score of just 227 on Futuremark's 3DMark06, however, which shows this machine is no gaming laptop. The extended eight-cell battery included with our model adds some heft and bulk compared with the six-cell pack, but it delivered 2 hours and 17 minutes of runtime on our harsh DVD battery-rundown test.

Toshiba Portégé M700-S7002

Editors' Rating: 7.7 out of 10

Pros: Easily converts from laptop to tablet; tablet digitizer does not detract from bright, sharp screen; decent multimedia-encoding performance

Cons: A bit hefty for a 12-inch portable; short battery life; Vista Business low on multimedia extras

Specs: 2.2GHz Core 2 Duo T7500; 2GB DDR2; 160GB hard drive; modular DVD±RW; 12.1-inch TFT; integrated Intel GMA X3100; Windows Vista Business

Direct Price: $1,799

THE $1,799 PORTÉGÉ M700-S7002 has all the features and performance a business user is likely to need, plus handy

tablet functionality for when you want to change the way you work. If you don't mind a buttoned-down gray-and-black color scheme, the M700 should suit you just fine, and the clear-coat finish adds a bit of richness to an otherwise unremarkable look. What concerns us more is the relative heft of the chassis: A notebook with just a 12.1-inch screen has the potential to be a svelte traveling companion, but the M700 is 1.5 inches thick and weighs about 5 pounds. That bulk is especially noticeable in tablet mode, where the unit gets uncomfortable in the crook of your arm in short order.

But we have no complaints about the screen. The LED backlight gives a rich, bright appearance, while the 1,280x800 resolution makes for sharp, clear text. Even more impressive is the fact that the digitizer does not detract from the screen's clarity, unlike the digitizer the HP Pavillion TX 2000Z uses. On the downside, the matte (not glossy) panel means DVD movies look less vibrant than on other machines, and audio from the integrated stereo speakers is thin.

The screen pivots and folds flat on a sturdy center hinge for tablet use, and we found the digitizer very accurate. You can use your finger or the stylus, and the Windows Vista Business operating system includes the Input Panel utility for adding handwritten notes to an open document, converting written characters to text, or typing on an onscreen keyboard. Toshiba also includes the excellent Microsoft Office OneNote 2007, a note-taking and organizational program that lets you collect snippets (documents, portions of Web pages, and so on) into an electronic tabbed notebook. Beyond the tablet functionality, Toshiba has included a wealth of features: a fingerprint reader, Webcam, PC Card and memory-card slots, a DVD SuperMulti drive, Bluetooth, and 802.11a/b/g/n Wi-Fi. You can also swap out the optical drive in favor of a weight-saving filler piece or an extra battery or hard drive.

Performance from the M700's 2.2GHz Core 2 Duo T7500 CPU (with 2GB of RAM) is fine for a business-class machine. The laptop booted in a quick 1 minute and 2 seconds and scored 3,310 on Futuremark's PCMark05 benchmark. On our multimedia encoding, the M700 scored 678 on Cinebench 9.5, and completed the Windows Media Encoder 9 trial in 7 minutes and 13 seconds, and the iTunes conversion test in 4 minutes and 58 seconds, both decent scores for a business system. As expected, the integrated Intel X3100 GPU is no match for serious 3D needs: It scored just 557 on Futuremark's 3DMark06. Because the OS is Vista Business, there are no Media Center components for handling music and DVD playback, organizing and accessing multimedia files, and so on. Toshiba claims battery life for the included six-cell battery of around 4 hours and 45 minutes, though in our DVD rundown test we saw only 1 hour and 15 minutes, which to us suggests typical-use battery life is more like 3 to 4 hours.

Reviews by Jamie Bsales, Joshua Goldman, and Shane McGlaun

MY SOCIAL SECURITY # IS

457-55-5462

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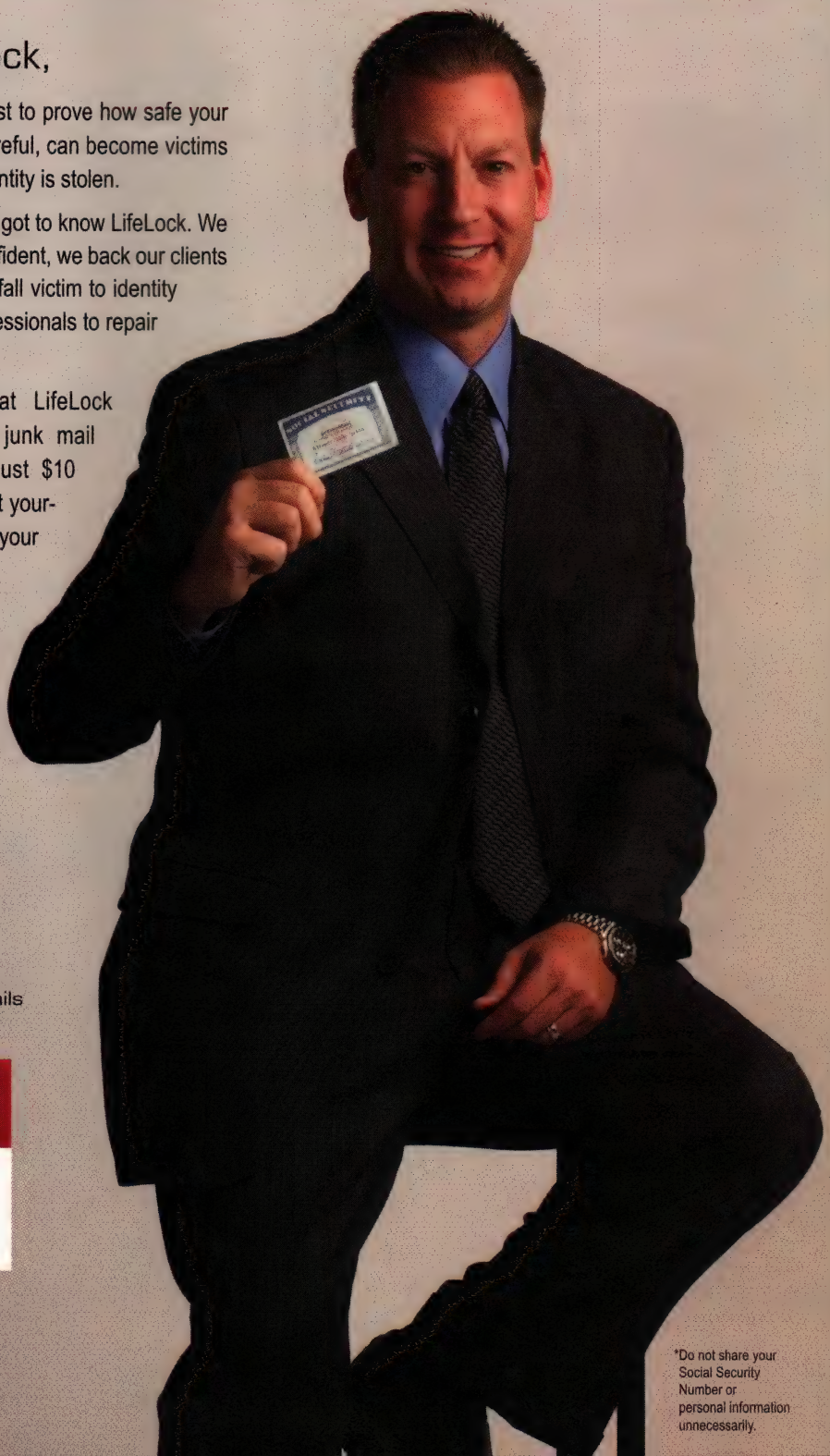

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The Fine Print

Get inked with the right printer for your needs.

In a perfect world, you'd have one printer that does everything under the sun. But, unfortunately, the world doesn't work that way. Printers come in a sometimes-dizzying variety of models. Should you get an inkjet or laser printer? Do you need networking? Should it come with a scanner? To answer those questions, you'll need to decide what type of user you are.

For many people, a simple low-priced printer will suffice. But if you begin dabbling in hobbies like photography or scrapbooking, or decide to start your own business out of your home, your printing needs change—and your old printer may no longer be capable of handling the job. No matter what your requirements are, there's something for you in the following pages, where we'll describe the different types of printer users and the printers that fit them best.

By Les L. Shu

HOME USER

The home user needs a printer that can handle everything from photos that were taken on vacation to Google Maps printouts of directions. If price is an important factor, look toward inkjet printers, many of which can be had for less than $100. Casual users will find inkjet printers suitable for occasional printing of documents and photos, but keep in mind that the ink for inkjet printers can cost more than the printer itself in the long run.

If you have children who frequently print book reports or you find yourself printing a lot of text documents, consider investing in an entry-level or personal monochrome laser printer. These devices are becoming increasingly affordable (some cost less than $200), yet they can print faster than inkjets and have a lower operation cost over time.

If you have a home network setup, check to see if your router has a built-in print server or if you can network your printer either through Ethernet or Wi-Fi capabilities. A networked printer will be available to any PC on the network.

To get even more functionality, look for an inkjet printer that offers scanning and copying, known as an all-in-one or multifunction printer (MFP). They were once pricey, but now you can find a quality home MFP for around $100.

WWW

EVEN MORE PRINTERS

Check out more of our printer reviews online at www.computershopper.com/peripherals, including our favorite inkjet, laser, multifunction, and snapshot printers.

Lexmark Z1420

THE $79.99 LEXMARK Z1420 is one of the least-expensive printers we've seen with built-in wireless networking, and it offers performance and print quality on a level with wired printers that cost the same amount.

The included drivers for both Windows and Mac make the setup routine novice-friendly. As you install the driver, the installation wizard walks you through assembling and connecting the printer; it will also guide you through configuring Wi-Fi (if you plan on using that feature). And Lexmark's printing utility is excellent, with a wizard-driven menu that will automatically adjust quality and paper-size settings for operations like printing an envelope.

EDITORS' RATING 7.8

PROS Inexpensive; easy to use; generally speedy performance for its class

CONS Slow photo prints; feels flimsy

Lexmark International
800-539-6275
www.lexmark.com
$79.99

A light on the front of the printer verifies your Wi-Fi connection. The Z1420 supports Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA), and WPA2 wireless encryption for network security.

The printer has a boxy, off-white design that looks reasonably stylish on your desk. It's also very light—so much so that it feels flimsy. Lexmark says its Accu-feed technology virtually eliminates paper jams. In practice, it worked well; we never had any sheets misfeed, even when we intentionally misaligned some when loading paper.

Print quality was generally excellent on a variety of paper types. Both color and monochrome text were crisp and highly readable, even at tiny point sizes. Color photos looked great on glossy photo paper; we noted no visible dithering, and colors —including skin tones—looked natural despite the printer using just four ink colors. (Lexmark offers an optional color cartridge for even higher-quality photo prints.) When we printed in standard mode on plain paper, photos didn't hold up as well, with visible dithering evident in lighter areas.

Text print speed isn't bad for an entry-level printer, though color photo prints are slow. Lexmark claims speeds up to 24 pages per minute (ppm) in monochrome and 18ppm for color, but those are best-case scenarios in draft mode. In normal mode, a 10-page, single-spaced monochrome document took 1 minute and 17 seconds to print. A more elaborate three-page printout, which included color text and a half-page photo, took 1 minute and 22 seconds. A full-page, 8.5x11-inch photo took 6 minutes and 10 seconds at best quality, while a 4x6-inch photo took 1 minute and 48 seconds. We saw little difference in printer speed whether using the USB or 802.11g Wi-Fi interface.

For this printer, Lexmark offers both standard and slightly more-expensive high-yield ink cartridges. The company rates its $29.99 high-yield color ink cartridge for 475 pages at 5 percent coverage (a reasonable 6.3 cents per page); you'll obviously get nowhere near that many pages if you often print full-page photos. The $30 high-yield black cartridge is rated at 500 sheets (6 cents per page). The standard cartridges cost nearly as much, yet Lexmark rates them for just 150 to 175 pages. Clearly, the high-yield cartridges are the smart-money choice.

INSTANT GRATIFICATION
Like to print out your photos instantly? Our review of four recent snapshot printers will help you turn your home into a photo lab in no time.
www.computershopper.com/112

PHOTO ENTHUSIAST

Some photo enthusiasts enjoy making 4x6-inch prints of digital shots just for friends and family; others want high-quality, professional prints. There are printers, of course, for both.

For the casual hobbyist, a snapshot printer is a handy device for making 4x6- or 5x7-inch prints. These compact devices are a photo lab in a box, and they use print packs that include an ink cartridge and photo paper. Most are inkjet-based, although some use a dye-sublimation technology. Snapshot printers are also designed to work independently of a computer, so you'll find a screen to view your photos, as well as quick image-editing tools and ports and slots for connecting a digital camera or flash-memory card.

Unless you print photos often, however, a snapshot printer is a niche product. Instead, consider a quality inkjet printer that can churn out photos and handle regular printing needs; they use replaceable independent color ink cartridges, and many have built-in ports and card readers for computer-less printing.

Deep-pocketed prosumer photographers looking for superior prints with archival-quality inks should consider printers like Epson's $799.99 Stylus Photo R2400, which lets you print on a variety of different papers, including wide format. The company claims that prints from the R2400 can last without fading for 200 years if they're kept under glass (or even longer if they're stored in a photo album).

Canon Pixma MX700

EDITORS' CHOICE

UNLIKE MANY MULTIFUNCTION UNITS, the $199.99 MX700 does an outstanding job with photos, keeping pace with Canon's dedicated photo printers in quality. The only knock against it is its slow photo-printing times—but the results are worth the wait.

Print quality for documents and photos was top-notch in our tests. Text printed in a very dark black, without the gray cast seen on some inkjets. Even at tiny point sizes, fonts were sharply rendered and easily readable. Though the MX700 is just a four-color printer, photo quality on both generic and Canon photo paper was superb. We saw no gradients, dithering, or banding, and color reproduction was excellent. Black-and-white photos looked great as well, though they had a very subtle greenish cast.

Photo printing was on the slow side, however. A borderless 4x6-inch took 1 minute and 17 seconds, while an 8x10-inch photo printed in 2 minutes and 34 seconds. But other print times were competitive for an inkjet in this price class. Our complex color text document, containing multiple fonts, photos, and charts, printed in 2 minutes and 54 seconds. A 20-page monochrome text document printed in 2 minutes and 57 seconds.

The MX700 has an automatic document feeder (ADF) capable of holding up to 30 sheets for copying and scanning. To test it, we ran a few copies of a 20-page document that had been handled quite a bit—so the sheets weren't perfectly flat—and observed no feed problems. Copies at standard quality looked great; it sharply rendered even very small text, and image reproduction was attractive in both color and gray scale. When we tested the automatic feeder, our 20-page document copied in 5 minutes and 8 seconds. A full-page color copy took 31 seconds, while a monochrome copy took 15 seconds.

You can scan a multipage document as an image, a PDF file, or an e-mail attachment. The MX700 is bundled with OmniPage SE OCR software, making it a complete solution for converting printed documents to text. Photo scans were comparable in quality to those from a stand-alone Canon scanner. There's also a built-in memory-card reader, and you can print directly from a memory card or a PictBridge-equipped digital camera connected via USB. Images can be previewed on the tiny, 1.8-inch color LCD.

The MX700 also acts as a full-function stand-alone fax machine, with a numeric keypad, a built-in phonebook for coded dialing, and a 100-page memory to save pages. You can also send faxes directly from any Windows program that can print.

The built-in Ethernet port makes it easy to share all of the MX700's functions on a network at home or in a small-office workgroup. The built-in card reader works over the network, as a mapped network drive, so it doesn't trigger Windows Autoplay to automatically copy over photos when you plug in a card (unless you're connected via USB).

EDITORS' RATING 8.7

PROS Excellent print/copy quality; solid fax functions; good software bundle; Ethernet port

CONS Slow photo printing

Canon U.S.A.
800-652-2666
usa.canon.com
$199.99

SMALL BUSINESS/ HOME OFFICE

If you run a business from your home or telecommute a few days during the week, you'll want to equip yourself with an inkjet or laser MFP, depending on the type of printing you do. A color inkjet (or costlier color laser) printer lets you jazz up your documents, while a mono laser printer is great when text printing and speed count. Besides a scanner, you may also want to look for an ADF-equipped model, which will allow you to easily make copies. If you still need to send and receive faxes, make sure this functionality is built in.

Have a small business with a few employees? Look for an MFP that has a large-capacity paper tray or one that can accommodate multiple trays, as well as networking capability to share it with several computers.

A business traveler who needs to print on the go can get a portable unit that uses a rechargeable battery and fits inside a bag. Before you buy one, however, consider whether it's worth the extra heft.

Dell Multifunction Laser Printer 1125

THE DELL Multifunction Laser Printer 1125, which prints speedily in black and white, doesn't skimp on features. It's easy to use, and its $249 price is attractive enough, but the printer's poor-quality graphics output means it's a bargain only if you work mostly with text documents.

Unlike some "all-in-one" printers, which relegate fax support to software that works in conjunction with your PC's internal modem, the Dell 1125 can operate as a stand-alone fax machine. Plus, the built-in color scanner includes a 30-sheet ADF.

EDITORS' RATING 7.2

PROS Fast printing; full-function faxing; document feeder for scanner/fax; excellent scanning software

CONS Poor-quality graphics printing; copies show banding

Dell
800-999-3355
www.dell.com
$249

Where Dell chose to keep costs down, apparently, was with the 21ppm printing engine. Its sole resolution is 600 dots per inch (dpi), and while it did an excellent job printing even the smallest text sharply, graphics were another matter. When we printed from our PC or used the copier functions, images showed obvious horizontal banding. Indeed, image quality is so poor that you wouldn't want to use the Dell 1125 for business documents that contain images. This is in stark contrast to text and line graphics, which looked very good in both prints and copies.

The device's other functions work well. A small LCD screen with well-designed menus walks you step-by-step through faxing, copying, and scanning, and the logical button layout and keypad make most operations straightforward. Most of the included software is simple to use, and the bundled PaperPort 11 scanning application does have advanced modes for more-experienced users. (You'll have to pay extra for OCR functionality, though.) Scan quality from the 600x600dpi scanner looked very good.

In our tests, the 1125's print speed was above average, with the first page starting to feed after about 10 seconds—a welcome change from the 30-second initial delay many entry-level printers make you endure. Our complex 10-page test document, which included multiple font sizes and colors (or shades of gray, in this case), images, and graphs, printed in just 30 seconds, not counting warm-up time. Our simple 20-page text document took 1 minute and 8 seconds to print. A single-page copy took 20 seconds, including the scanning process. Multiple copies of the same document were much faster, with five copies of one page taking 35 seconds.

Dell includes a 1,000-page toner cartridge with the unit. Additional 1,000-page cartridges cost $49.99, putting the cost per page for toner at 5 cents. The 2,000-page cartridge at $62.99 is a much better deal, dropping toner costs to just 3.2 cents per page.

What You Need to Know About Printers

Whether it's an inkjet for high-quality photos or a laser that churns out documents, every printer shares similar traits. Here are some common specifications you should keep in mind when you purchase your next printer.

Color or Monochrome?

Most inkjet printers today offer both color and monochrome options, but the question becomes more pertinent with laser printers. Color laser printers, usually pricey, are now available for less than $500—well within the reach of small businesses who want to add extra pop to their printed materials. For the most part, however, monochrome lasers are a far better value for home users and small businesses.

Resolution

Resolution figures refer to the maximum number of horizontal and vertical dots a printer can lay down within a 1-inch-square space. In theory, a higher-resolution printer can produce more-detailed text and images, but manufacturers inflate these numbers for marketing purposes, meaning these specs often have little or no bearing on real-world performance. If possible, view actual output from a printer before you decide.

Print speed

This spec measures how many pages per minute (ppm) or photos per minute a printer churns out. To determine the fastest-possible speeds, some manufacturers use basic text documents at the lowest-quality setting (draft mode) on plain paper. In our tests, we use a printer's automatic mode for text and its photographic-paper setting for photos (when applicable); we typically achieve about half the speed the manufacturer promises.

BIG BUSINESS

A large company with many employees needs a workhorse laser printer with features such as upgradable memory, fast print speeds, high-capacity toners, and one or more large-capacity paper trays. The printer needs to be networkable to allow for multiple print jobs. Some printers even have security options for sensitive documents as well as monitoring features that help you keep track of print jobs and how many pages your employees are printing. Color laser printers continue to drop in price, so consider buying one if your office outputs a lot of full-color documents.

Xerox Phaser 8560N

EDITORS' CHOICE

THE $799 PHASER 8560N offers high-quality color printouts, speedy output, and low per-page costs.

Using Xerox's solid-ink technology, the printer works by melting blocks of ink onto a drum, which then rolls the ink onto paper. At a maximum of 2,400dpi, the print quality is comparable to that of a high-end laser. Solid-ink printouts have a slightly glossy, subtly raised appearance that gives them a classy, if somewhat unusual, appearance. Overall print quality was superb in our tests, with very dark blacks; even tiny 4-point text on a gray-scale background was clearly readable. Image quality was as good as or better than a laser's. We saw some obvious dithering in skin tones and gradients, but color reproduction was excellent, and the printouts lacked the banding you sometimes find on laser output.

Whereas laser printers can take 30 seconds or more to print the first page in a job—they must warm up the fuser first—the Phaser 8560N starts printing within about three seconds of receiving the data. Unfortunately, initial warm-up in the morning takes a couple of minutes as the printer melts the ink. But for the rest of the day, the printer can finish most short jobs before the typical laser has spit out the first page. The unit met its rated print speeds, printing 17ppm in Enhanced quality and 30ppm in Fast Color mode. Because printing is done in a single pass, rather than the four passes many color lasers require, outputting full-page color graphics is just as fast as printing a page of black text.

For proofing pages that will be professionally printed, the Phaser 8560N offers Pantone-matched color, and support for SWOP, ISO, and other professional color schemes. The only component in the Phaser 8560N that needs replacement over time is the maintenance kit, which must be replaced either every 10,000 pages ($99.99 for a standard kit) or 30,000 pages ($149.99 for an extended-capacity kit). To add ink, just drop in a new ink block; there's no cartridge to remove and recycle. Print costs are a very reasonable 10.1 cents per page for color (based on 20-percent CMYK coverage), or 2 cents for monochrome (5-percent coverage).

The drivers, which support both Adobe PostScript Level 3 and PCL 5c, feature an easy-to-use option selection, detailed online help, print-status updates, and an interactive troubleshooter. The printer connects via USB or Ethernet.

Along with a 525-sheet paper tray at the bottom, the Phaser 8560N has a 100-sheet front-loading compartment that can also be used for envelopes and custom papers up to 40 pounds. You can add two additional 525-sheet feeders to the bottom ($399 each). You can also install additional memory and a hard drive to speed printing in heavy-use network environments. You can't add duplex printing, but a step-up model with this feature is available for $200 more. *—Reviews by Denny Atkin*

EDITORS' RATING 8.3

PROS High-quality output; fast printing; large paper capacity; excellent drivers, documentation; easy supply replenishment; low per-page costs

CONS Some dithering, halftoning visible in photo prints; slow warm-up

Xerox
800-275-9376
www.xerox.com
$799

WWW

CHEAP ISN'T ALWAYS CHEAP

Replacing the ink in your printer can end up costing more than the printer, but are cheaper alternatives the appropriate solution? Read our in-depth feature on the science behind consumables.
www.computershopper.com/113

Connectivity

Most printers connect to your PC via USB (either 1.1 or 2.0), but you'll have to buy the cable separately. Although you can still find some printers that offer a parallel port, this form of connection is nearly obsolete. For PC-free printing, look for memory-card slots, as well as ports that allow for direct printing from supported cameras or external storage devices. Many models also support wireless printing over infrared or Bluetooth, or via built-in Wi-Fi capabilities.

Consumables

Before you buy, consider the cost of items such as ink and paper. Replacement ink can quickly exceed a printer's price, running anywhere from $12 to as high as $60 per cartridge. More-expensive printers may be more economical in the long run because they often have higher-capacity ink tanks—and separate tanks for each color. Paper can cost anywhere from 10 cents to $2 per letter-size sheet; for best results, use what the manufacturer recommends.

Paper handling

With the exception of specialty machines like snapshot printers, all inkjet and laser printers accept standard letter-size and legal-size paper of various thicknesses, as well as envelopes. The printer should have a paper tray that holds at least 100 sheets. If you do high-volume printing, get a printer with a larger-capacity tray or one that accepts additional trays. Other printers offer advanced features like duplexing (automated printing on both sides of a sheet), automatic document feeders, and tabloid-size printing, although these are often found in more expensive models.

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COMPUTER CURES JOHN A. BUREK

RANK AND SERIAL NUMBER

Currently we have a Serial ATA (SATA) hard drive connected to the SATA1 port on the motherboard. We want to install another SATA hard drive. Does it have to be hooked up to SATA2, or can it be hooked up to the SATA4 or SATA6 ports?

Our problem is that there is a very tight fit between the SATA motherboard ports and the hard drive cage. When I built the computer, I had a hard time getting the 90-degree SATA plug installed onto the motherboard SATA1 port, and right now it is not possible to use SATA2 without removing the plug. It would be nearly impossible to use a straight plug because of the space.

KAREL3, VIA THE COMPUTERSHOPPER.COM FORUMS

If you're simply installing a drive for secondary storage, you generally can skip SATA ports in the sequence. The ports' numeric designations, often printed directly on the motherboard, simply distinguish them from one another, so it's permissible to use the ones most convenient for the geography of your case, with a couple of provisos.

Some motherboard BIOS chips let you specify the boot order of your SATA drives, using the port numbers or drives' names as a reference, whereas others default to booting from the lowest-number port. (Sometimes that will be SATA0, not SATA1.) As a result, not using SATA0 or SATA1 (whichever is lowest) for your boot drive might present problems on some systems.

Also note that if your motherboard supports RAID, it's possible that only a subset of its SATA ports supports it, and these RAID-capable ports may use a different controller chipset than the board's vanilla SATA ports. I'd suggest plugging all drives you're not installing in a RAID arrangement into SATA ports governed by the same non-RAID controller. Check the motherboard manual to identify which are which.

SINK THAT SCREENSAVER

When I right-click the desktop and go to Properties and Screen Saver, I see many screensavers I didn't install. I would like to remove some of them. (The ones I'm talking about didn't come with the PC.) How to proceed? The PC uses Windows XP.

HARRYJL, VIA E-MAIL

Now here's a task that XP doesn't make easy. First, navigate to the folder C:\Windows\System32, and search for files with an .SCR extension. These files are screensaver files, some of which will be your default Windows XP screensavers (more on those in a moment). You can delete any of the third-party SCR files you see here to get rid of that screensaver.

> Some motherboard BIOS chips let you specify the boot order of your SATA drives, using the port numbers or driver names as a reference.

But the screensaver you want to deep-six might not be found here. If you have no luck finding a matching SCR file, go to Control Panel > Add or Remove Programs. The screensaver might need to be removed as if it were a program, instead. Look for an entry in the program list for the screensaver, and uninstall as appropriate.

WWW For more tips and buying advice, visit the *Computer Shopper* Forums: computershopper.com/forums

You'll most likely find the screensaver here if it was originally installed as an EXE file.

Deleting one of Windows XP's default SCR files is trickier. You have to hunt out additional copies of it, or else Windows XP will autorestore the .SCR file to the System32 folder a few seconds after you delete it, thanks to XP's system-file-protection feature. Search for the SCR file in the folders C:\Windows\System32\dllcache and C:\Windows\ServicePackFiles\i386, and delete it *first* in those places. Only then should you delete it from C:\Windows\System32.

Note that to see the dllcache folder, you may have to go to Folder Options> View in the C:\Windows folder, check "Show hidden files or folders," and uncheck "Hide protected operating system files." Also, your PC may not have the ServicePackFiles folder, depending on whether you've installed any XP service packs.

FOILED AGAIN?

Has any printer manufacturer made a printer that offers silver and gold foil printing like Alps did? Alps ended its printers years ago, and they still own this market with these same printers. A lot of us still like making decals and specialty items with them.

KIM GUTZKE

Alas, this PC "ill" lacks a cure—but readers, do chime in with alternatives! The Alps MD-series printers enjoyed some niche success in the late 1990s. Their short-lived Micro-Dry printing process was pitched as an alternative

CONTEMPLATING (DATA) MORTALITY

I read an article in the AARP Bulletin *that quoted an IBM storage expert who said that CD-R discs have a finite lifespan, typically only two to five years. A physicist added that it's better to store crucial data from CDs on magnetic tape or a 7,200rpm hard drive.*

I was under the impression that saving data on CDs of some type was the way to go. I thought they had a "forever" life span, unless they were overheated. And I have lots of photos on CD-Rs! Got any advice?

MARK SNELL

Recordable-CD longevity is a valid concern, but it doesn't help that some coverage of the topic in the popular press has oversimplified the issue. I've had a few CD-Rs apparently "spoil" over the years (in fairness, out of thousands I own, many of them over 10 years old). But if discs were indeed dying en masse as quickly as that article suggests, we'd have an epidemic of lost data that would be obvious by now.

Still, so many factors affect CD-R longevity that drawing straightforward conclusions about it is harder than hitting a blowing leaf with a BB gun at 1,000 yards. For example, a CD-R disc's data layer—the surface visible through the disc's bottom, onto which your drive's recording laser burns microscopic spots—is made up of one of several types of organic dye, the most common being cyanine, phthalocyanine, and azo. These dyes give discs their characteristic colors and have differing chemical traits—which means differing rates of degeneration. That's also true of the superthin reflective layer, which lies above the data layer. It's made of gold, aluminum, or some form of silver, each of which will age at its own rate. Also, media makers apply varying amounts of lacquer or other protectant atop CD-Rs to shield these layers. Plus, independent of the media itself, CD burners employ different "writing strategies" at different times, which can have an impact on the readability, many years later, of a marginal disc. And none of this factors in environment (temperature, humidity, exposure to light) and handling (fingerprints, scratches, frequency of use), variables that are even more important.

That's not convoluted enough? Also, many CD-R brands are sold by companies that put their name on the discs but source them from one of several mass manufacturers. The branding company may switch disc suppliers at any time, so, eventually, it may offer discs that have identical labeling but were manufactured by different factories using different processes. It's not impossible to figure out who manufactured a given disc; in the early days of CD-R technology (back when the discs were expensive), disc enthusiasts would ferret out the underlying manufacturer in order to track compatibility with specific drive models and avoid wasting pricey discs. A relic of that trend, CDR Identifier, is a free utility that reveals the real maker of a given CD-R. (See **www.burtonsys.com/CDR_Identifier** to download it.) It's useful if you'd like to investigate this among older discs you own. (The software's no longer updated.)

But a more practical approach is simply taking precautions. Recordable DVDs, terabyte hard drives, and emerging Blu-ray burners make creating redundant archives of your irreplaceable data easy and cheap. (This is crucial for files such as digital photos that, in archivist lingo, are "born digital"—lacking an analog source to fall back on.) Consistently backing up to next-generation formats betters your chances that at least one backup will remain viable, and that equipment will still exist to read it 50 years from now. Preemptive backups are also important because a disc might not betray deterioration until it's too late—nascent corruption can pass unnoticed if the reading drive's error correction compensates for it.

If you want to learn more about this topic, **www.clir.org/pubs/reports/pub121/contents.html** has a terrific in-depth read: a study from the National Institute of Standards and Technology geared toward archivists and librarians. Check it out, because clearly even *they* are wrestling with this issue.

to inkjet technology for color printing, but the printers themselves were costly. Up against the razor-blade-and-razor marketing of inkjets, I suspect price torpedoed MicroDry's chances from the start.

MicroDry models, like the dye-sublimation snapshot printers still with us today, would feed each page multiple times, making a pass for each color. MicroDry was also similar to dye sublimation in that it used ribbons (in its case, resin-impregnated ones) and transferred color using heat to the paper. But what made the MicroDry printers unique was their ability, as you point out, to accept metallic and foil-finish ribbon cartridges that enabled a sort of spot-color metal printing for the applications you suggest. Also, Alps offered white cartridges, which enabled you to print in white

Support for Alps MD-series printers is rapidly "drying" up, along with ready availability of consumables. The printers trade for healthy sums on eBay.

on nonwhite media. (The latter is impossible on inkjets, which assume the whiteness of your media will represent the parts of an image that are to be reproduced as white.)

Alas, support for Alps' printers, and the few made by MicroDry licensees Citizen and Okidata, is rapidly "drying" up, along with ready availability of consumables. The printers trade for healthy sums on eBay.

An alternative worth looking into is metallic-surface inkjet paper. A few makers, such as Red River Paper **(www.redrivercatalog.com)**, sell such papers. They're not compatible with all inkjet inks, and you'll obviously need to reverse your expectations—you won't be printing "spot metallic," but rather the polar opposite.

PCI'S LAST STAND

A year ago, I bought a Dell Dimension 3100C. I've recently decided I want to upgrade my graphics card from 128MB

to something higher. With the default configuration on the motherboard, the graphics card is built-in. I do, however, have two white PCI slots on the motherboard. Can I throw a PCI graphics card in one of those, and be on my way? Is it is as simple as that?
VALKYRIE, VIA THE COMPUTERSHOPPER.COM FORUMS

You can, but don't expect miracles. Dedicated graphics slots—AGP, and the current PCI Express x16—emerged to meet the need for increased bandwidth between graphics cards and motherboards. The old-style PCI slot simply isn't up to the massive data transfers that today's graphics cards require.

PCI graphics cards are still made, but you won't find cutting-edge chipsets in them. You'll be hard-pressed to spend much more than $75 on a PCI graphics card nowadays, so at least the experiment won't cost you much.

That said, a recent PCI graphics card will likely be some improvement over your 3100C's built-in (better known as "integrated") graphics. That's because the 128MB of memory you mention is almost certainly "shared" memory—the integrated graphics borrow a portion of your main system RAM for graphics-processing tasks. A dedicated graphics card will have its own memory, freeing up that chunk.

PCI graphics cards are still made, but you won't find cutting-edge chipsets in them. On the nVidia side of the fence, the best PCI cards you'll find are based on the GeForce 6200, which is practically ready to collect Social Security. ATI's top-end PCI offering, at press time, was the Radeon X1550—several generations better, but still just an entry-level card by today's standards. As a result, you'll be hard-pressed to spend much more than $75 on a PCI graphics card nowadays, so at least the experiment won't cost you much.

TIP OF THE MONTH:
SLIDE SCANNING REDUX

Just read March's letter "35mm Slide Avalanche!" (p. 81). I, too, have more than 2,000 family slides mildewing in my basement to digitize. My research, like yours, found one of the best slide scanners to be Nikon's Coolscan 5000 ED, but reviews indeed said its batch feeder was problematic.

Then I discovered (and bought) Pacific Image Electronics' 3650 batch scanner. Even this terrific solution was not without problems—its 50-slide cartridge jammed with cardboard-mounted slides. But from reading user forums/reviews, I ordered a Braun 100-slide carousel that happens to be compatible with the scanner. It works great! I had to pull my slides from my horizontally oriented Kodak carousels and rotate them 90 degrees before inserting them into the vertical Braun carousel, but after the first load, it was easy. I figured out the workflow by trial and error, and the software takes advantage of Digital ICE, ROC, and GEM. At 3,600dpi and 16-bit color, and with all those automatic image adjustments on, each scan takes about six minutes.

I haven't had any jam problems. I load a carousel before bed, and the 100 slides are scanned by morning. Then I reload it and fire it up again. When I'm done, I'll use Photoshop Elements to enhance the keepers.
KARL SMITH

Good tip! I'd looked at PIE's scanner offerings when researching that letter, but I didn't uncover this carousel compatibility. A 100-slide capacity, with the carousel at just $19.99, definitely makes this scanner an intriguing option.

As an aside: Our April reader didn't want to send his precious slides out to a service to be digitized. But I just read about a couple of somewhat recent startups, BritePix and ScanCafe, that offer slide scanning—including image clean-up—for prices competitive (for a job this size) with buying the hardware and doing it yourself. (The services range from about a quarter to a little over 50 cents each for 3,000dpi slide scans, depending on quantity, image-storage, and handling charges.)

ScanCafe stands apart in that you can preview your scans online and reject up to half of a given batch. The way these services keep costs low, however, is by outsourcing the work, to Costa Rica or India, respectively. Your slides are sent overseas via secure carriers. So you have to weigh your willingness to allow this against the time and money you might save. (Domestic scan services tend to start around the high end of their range.)

I like your approach, however, assuming you're happy with the scan quality and have the patience for the job. Plus, you can always recoup part of your investment by reselling your scanner once the job is done.

Send us your favorite tip, and you could receive a year's subscription to *Computer Shopper*!

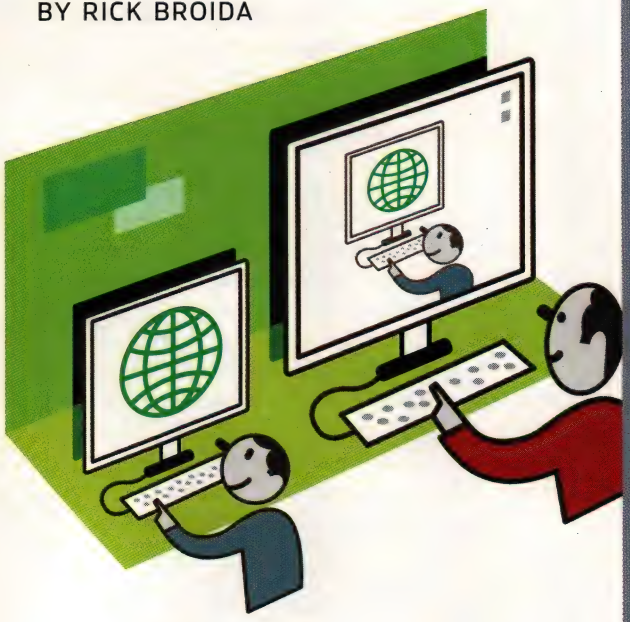
"Computer Cures," *Computer Shopper*, 72 Madison Ave., 10th Fl., New York, NY 10016
computer.cures@computershopper.com

Please include your name. Due to the number of letters we receive, we cannot provide personal replies, nor return any enclosures.

Keep your PC safe from your kids—and your kids safe from Internet threats.

Child-Proof Your PC

BY RICK BROIDA



KIDS AND COMPUTERS go together like milk and cookies—expensive, complex, fragile cookies. Before you let your little ones loose on the PC, consider taking some steps to safeguard your settings, data, and even CDs. At the same time, safeguard the kids by limiting their time online, choosing the software they're allowed to use, and keeping them away from inappropriate Web sites. Child-proofing your PC is easier than you might think—especially if it has Windows Vista or Mac OS X.

Illustration by David Flaherty

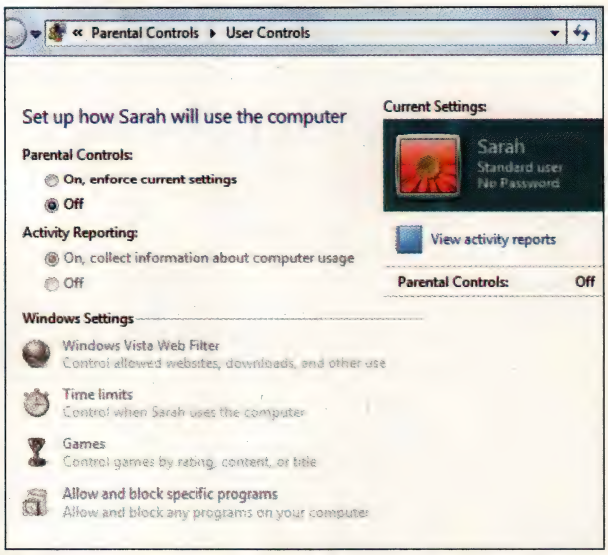
1 Configure Vista's Parental Controls

Microsoft baked a robust set of parental controls into Windows Vista, giving parents considerable control over their kids' PC activities. You can specify which games and applications they're allowed to run and which Web sites they're allowed to visit. Even better, you can restrict computer use to specific times of day, like when you're home from work and can keep an eye on the kids' activities. (Apple offers similar capabilities as part of OS X; see the "iParenting" sidebar.)

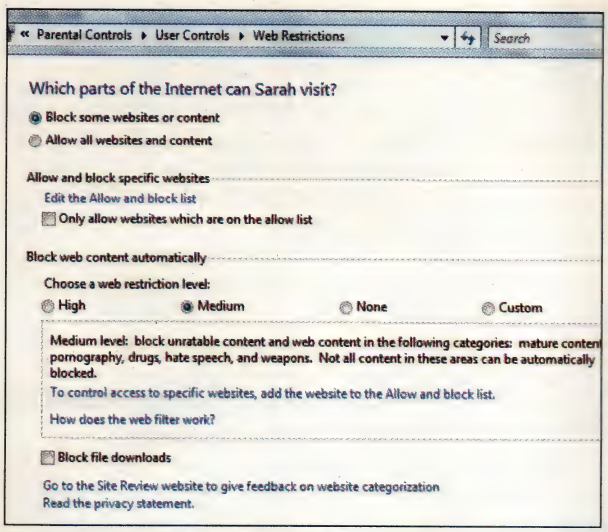
To access the Parental Controls panel, click the Start button, type **parental**, and click the corresponding option when it appears in the Start menu. As the parent, you'll have a password-protected administrator account in Vista; each child will get his or her own user account. (If you

« User Accounts and Family Safety ▸ Parental Controls
Tasks
Select a games ratings system
Family Safety Options
Choose a user and set up Parental Controls
What can I do with Parental Controls?
ASP.NET Machine Account
Standard user
Password protected
Guest
Standard user
No Password
Rick
Computer administrator
Password protected
If you want to apply Parental Controls to someone who isn't, create a new user account for them to use.
Why do I need an account for this?
Create a new user account

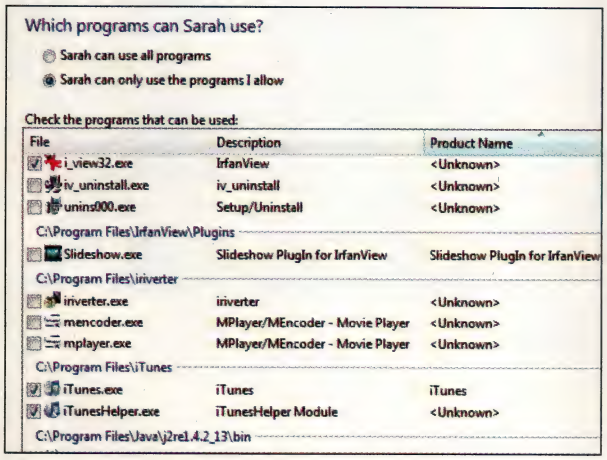
From your administrator account, you can create new user accounts that you can secure for your children.



The settings in the User Controls window allow you to toggle activity reporting, time limits, gameplay, and more.


« Parental Controls ▸ User Controls ▸ Web Restrictions
Search
Which parts of the Internet can Sarah visit?
Block some websites or content
Allow all websites and content
Allow and block specific websites
Edit the Allow and block list
Only allow websites which are on the allow list
Block web content automatically
Choose a web restriction level:
High
Medium
None
Custom
Medium level: block unratable content and web content in the following categories: mature content pornography, drugs, hate speech, and weapons. Not all content in these areas can be automatically blocked.
To control access to specific websites, add the website to the Allow and block list.
How does the web filter work?
Block file downloads
Go to the Site Review website to give feedback on website categorization
Read the privacy statement.

Use Vista's Web filter to allow or block specific Web sites and file downloads.



Want to prevent your kids from accessing certain programs on your computer? Just deselect them from the list.

haven't already created a password for your administrator account, follow Vista's instructions for doing so.)

Click "Create a new user account" at the bottom of the Parental Controls window. Type the child's name and clear the password checkbox. Click OK and wait for Vista to create the new account. When that's done, you'll see a setup window with parental controls turned off by default. Enable them to access Vista's four control groups: Web, time, games, and programs.

The Web Filter lets you block or allow various sites via automatic settings or a list you can edit yourself. For example, you might want to limit younger kids to sites such as Disney.com and NickJr.com and block everything else. The filter can also block file downloads, helpful for preventing the accidental installation of malware-infested games kids tend to find online.

If you want to keep the kids off the PC altogether at designated times, head to the Time Restrictions option. Just drag your mouse over the chunks of time you want to block; the kids won't be able to sign into their accounts without your password (meaning you can manually override the restrictions for them if the need arises).

Vista's Game Controls allow or prohibit gameplay on the PC. If you allow it, you can block specific games based on rating and content type (as determined by the Entertainment Software Ratings Board). This is helpful for keeping the younger kids away from the blood-and-guts shooters that may be allowable for the older kids. You can also block or allow individual games.

Similarly, Vista lets you block or allow specific programs, though this can be a huge hassle to set up: The Application Restrictions page lists every executable file installed on your PC, and it's not exactly fun trying to wade through it. But the option is there if you want to keep the kids out of, say, Quicken and other inappropriate programs.

Vista also provides activity monitoring, which you can use independently of the other parental controls. The report shows the top 10 Web sites visited, 10 most recent sites blocked, system logon times, games played, e-mail and instant messaging activities, and so on. If you suspect your teen is spending too much time online, this can help you keep tabs on him or her.

2 Give Young Kids Their Own "Backyard"

With or without Windows Vista, today's PCs aren't exactly kid-friendly. Pity the 4-year-old who tries to figure out why a Windows security-update notification just interrupted his game of Putt-Putt Saves the Zoo. Meanwhile, curious kids who start clicking the mouse or indiscriminately hitting keys might accidentally delete important files, such as work documents or your library of family photos.

Enter Peanut Butter PC (**www.peanutbuttersoftware.com**), a kid-oriented desktop environment that's like a fenced-in computer "backyard." The software provides a cute, simple interface that allows kids to access parent-selected programs and Web sites. Everything's icon-based, so it's suitable for even the youngest users. And it has the added benefit of protecting your files: The software disables *Alt+Tab, Ctrl+Alt+Delete,* the Start button, and other means of "escape." There's also an option to prevent kids from opening the optical drive by pressing the eject button (meaning no more finding cookies in the DVD burner).

Peanut Butter PC offers a graphics-oriented desktop environment that keeps kids entertained—and keeps your data safe.

Peanut Butter PC sells for $24.95, but there's a fully functional 15-day trial version available for download if you want to test-drive it first.

3 Install Internet Safeguards

As you probably know, the Web has a seriously seamy underbelly, a vast red-light district that's simply unsuitable for children. Unfortunately, unless you take steps, your kids are likely to encounter it, either intentionally or by accident. Short of pulling the plug on the cable modem, what's a concerned parent to do? Thankfully, there are numerous options at your disposal.

Start by bookmarking a kid-friendly search engine such as Quintura (**kids.quintura.com**). The site employs a simplified, point-and-click method of conducting Web searches. Search for music, for instance, and related topics (such as jazz, dance, and instrument) appear in a "cloud" surrounding the original search term. Click any of those results to narrow the search.

Quintura is an easy-to-use search engine that presents kid-safe results in a fun, friendly format.

Although Quintura doesn't expressly promise protection from inappropriate material, it's powered by Yahoo Kids, so all search results should be G-rated. Same goes for **Zoo.com**, which also searches Google, Wikipedia, and various news sites.

While you're at it, consider installing K9 Web Protection (**k9webprotection.com**). Available for Windows and Mac systems, this free Web-filtering software promises to block more than 55 categories of undesirable content, from hate speech to gambling to pornography.

Of course, no software program is completely infallible. For more serious protection, try blocking the bad stuff at the server level with ScrubIT (**scrubit.com**). It works like this: You tweak your network router (or your PC, if you don't have a router) to access the Web via ScrubIT's servers instead of your Internet service provider's. And those servers block inappropriate and malicious sites. There's no software to learn or permissions to set; ScrubIT does all the heavy lifting.

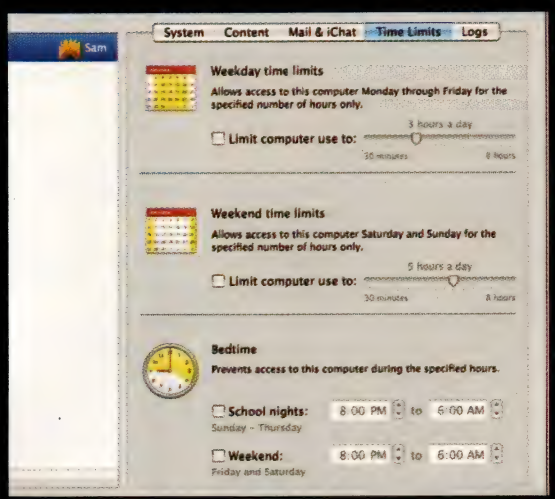
The downside is that you have no control over what gets blocked (though a customizable version of the service is in the works). But for parents who want fast, effective, easy-to-deploy protection, ScrubIT is a solid solution. And it's free to boot.

iParenting

A sign that its user base is growing beyond the creative class, Apple has boosted parental controls in the latest version of its Mac operating system, OS X 10.5 Leopard. Many of the features are similar to the ones found in Vista and likewise require a password-protected administrator account to set up separate accounts for children. You can find the controls under System Preferences, which is listed under the Apple-icon drop-down menu.

The settings you can control include blocking access to adult Web sites (either automatically or through manually entering URLs to block), limiting the amount of time your child can access the computer (with separate weekday and weekend options), and monitoring which sites the child has visited or the people with whom he or she has chatted. Further control over online communication is possible by specifying which e-mail accounts and iChat names your children are allowed to interact with. You can also set a bedtime, after which a child can't access his or her account, and even hide profanity in the Mac's dictionary from your kids.

As with Vista, Leopard allows you to restrict selected applications from running when your child is logged in, and you can enable the Simple Finder option to make the desktop easier for youngsters to navigate. In addition, you're able to decide if your child is allowed to change printer settings or burn CDs or DVDs. *—Sean Portnoy*



Mac OS X 10.5 (Leopard) lets parents exercise control over when their kids can, and can't, use the computer.

4 Save Your CDs

If your kids are like most, they handle CDs with all the care of a bull in a china shop. Discs get dropped, thrown, and, ultimately, scratched, leaving them unreadable by your PC. Just try explaining to a bawling toddler why Putt-Putt Saves the Zoo won't work anymore.

You can save yourself (and your kids) the grief by installing virtual-CD software. These utilities copy the full contents of each disc to your hard drive, creating virtual drives in the process. The result: Your PC sees each virtual drive as though it were the original CD—no CD required. Now you can leave those easily scratched platters in their cases and run all the kids' favorite games without so much as touching the CD drive.

You can test-drive this plan with Alcohol 52% Free Edition (**www.alcohol-soft.com**), which lets you create up to six virtual drives. The retail version, Alcohol 120%, costs $44 and lets you create up to 31 drives. FarStone's VirtualDrive 11.5 (**www.farstone.com**) works similarly; it supports up to 23 drives and costs $29.99.

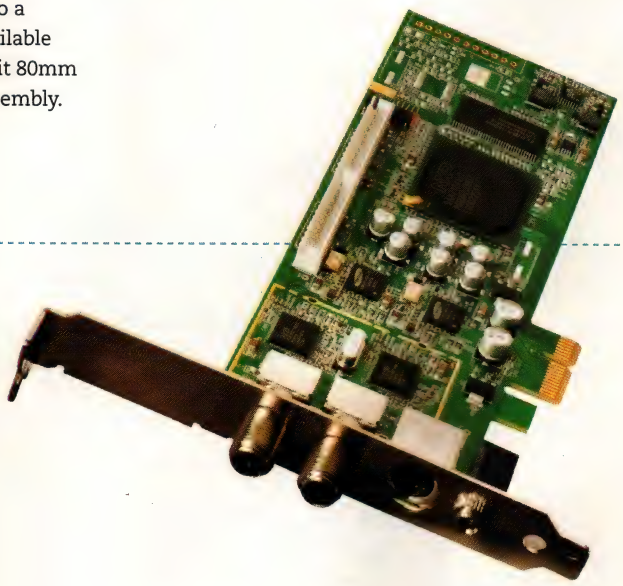
Build Your Own

NEW PRODUCTS FOR BUILDING A CUSTOM PC

BY JOHN A. BUREK

Clear case of technolust

Show off your PC-building handiwork with the $79.99 **Acrylic HTPC** from Sunbeamtech. A fun project for serious DIY builders, this case comes packed flat in kit form—you assemble it screw by screw, panel by panel. The end result is a stunning, transparent entertainment PC enclosure that accepts ATX motherboards and up to a whopping eight hard drives, for truly massive video archiving. It's available in two versions: untinted clear and tinted ultraviolet blue. Four blue-lit 80mm case fans are included, as well as white gloves for fingerprint-free assembly. *Sunbeamtech, www.sunbeamtech.com*



Ready for RAID

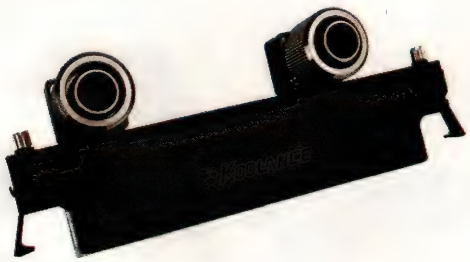
Equip your tower PC with major-league-capacity Serial ATA (SATA) storage with the help of the **KF-3000-BK Internal Hot-Swap Rack** from Kingwin. This drive-bay device has three slots for SATA hard drives but occupies only two 5.25-inch front-accessible bays. No cartridges or sleds are required—you simply slide drives into or out of the slots behind each latched door. Two 40mm fans around back keep your drives cool. The rack supports current-generation 3Gbps SATA II drives as well as 1.5Gbps units. Expect to pay around $80 for the rack; you, of course, supply the drives and data. *Kingwin, www.kingwin.com*

Twice the TV

Do you do your best multitasking when you're sitting in front of the television? Then you'll admire the **WinTV-HVR-2250** from Hauppauge Digital. This $129 TV-tuner card features both analog and digital tuners, letting you watch and record two NTSC, ATSC (over-the-air digital TV), or "clear QAM" (unencrypted digital cable) programs simultaneously. With its help, you can turn most any PC with a PCI Express x1 slot into a home theater workhorse. And if you're building a compact media center of your own, you'll appreciate the card's low-profile, half-height design. *Hauppauge Digital, www.hauppauge.com*

I'm looking through you, PCU

...with apologies to The Beatles. An eye-catching complement to a windowed PC case (or a pure-acrylic one, such as the Sunbeam on p. 91), the $49.99 **Logisys Quiet 550W 12CM LED Acrylic Power Supply** has transparent flair. The cabling comes sheathed in UV-reactive green mesh, and a 120mm fan with blue LEDs cools and illuminates the supply itself. The power-connector selection is more ordinary: six standard Molex, two SATA, one PCI Express, two floppy, and standard 20-pin/24-pin and four-pin motherboard feeds. Logisys claims low-noise operation. *Logisys Computer, www.logisyscomputer.com*

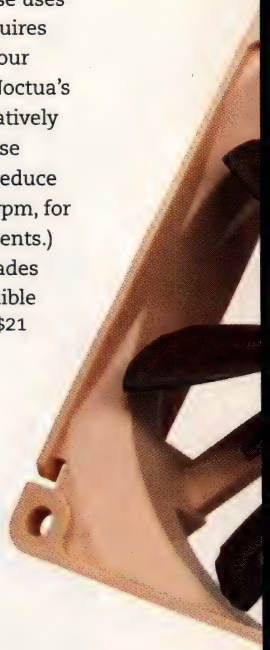


Beyond the limits of memory

We're more than a little apprehensive of pushing our PCs so far that we'd need to water-cool our memory modules, but Koolance has you (or at least your memory) covered, if you dare. Its $29.99 **RAM-35** water-cooling modules fit over your RAM like heat spreaders, but work in concert with your water-cooling system to circulate coolant along both sides of your DIMMs for maximum heat draw. Visit Koolance's site for more details; you'll need additional adapter hardware, and several RAM-35 units can be configured in series to cool multiple DIMMs. *Koolance, www.koolance.com*

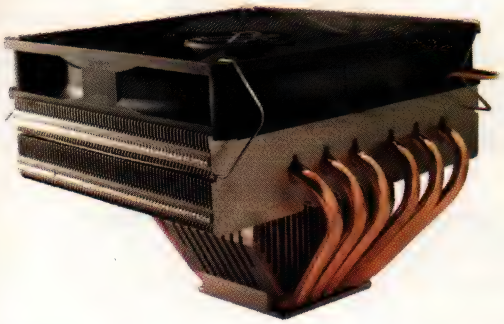
Off-size silence

Replacing your PC's stock case fans with low-noise models is a good first step toward tamping down running noise. That's easy enough if your PC's case uses 80mm or 120mm fans, but if it requires the less-common 92mm variety, your choices have been limited. Enter Noctua's 92mm **NF-B9**, which spins at a relatively sedate 1,600rpm, helping keep noise down. (Included adapters let you reduce the spin rate to 1,300rpm or 1,000rpm, for less-demanding cooling environments.) Also, the fan's slanted, notched blades and oil-based bearings reduce audible turbulence. Expect to pay around $21 each. *Noctua, www.noctua.at*



Dynami-cube

It's hip to be (nearly) square with the $89.99 **M-40** case from AeroCool. This compact Micro-ATX cube case measures 9.2x11.6x13.8 inches and provides a surprising number of drive bays for its size: one 3.5-inch and two 5.25-inch externals, plus two 3.5-inch internals for hard drives. The case splits in half horizontally, with the top half (home to your drives and power supply) folding upward on a hinge, putting your motherboard within easy reach. (That's never a given in a small-form-factor case!) Plus, you can pack the M-40 with powerful components—it supports full-size ATX power supplies and up to four fans. *AeroCool, www.aerocool.us*



Piping cool

Can one CPU cooler really fit all? Scythe U.S.A.'s **Zipang** makes a credible attempt at it. Supporting a laundry list of CPU types (Intel LGA775 and Socket 478, as well as AMD AM2+, AM2, and Socket 754/939/940), this $58.80 cooler supports everything from lowly Semprons to power-fiend Phenoms and Core 2 Quads. Six parallel copper heatpipes snake into two layers within the radiator assembly to maximize heat dissipation, and an oversize, quiet-running 140mm fan cools the whole works. And you don't need lots of overhead to fit it—at just 4.4 inches tall, its profile is low. *Scythe U.S.A., www.scythe-usa.com*

Green Giant

The green-energy trend has made PC-component makers more cognizant than ever of power-consumption concerns—even makers of monster-wattage power supplies. Claiming 85 percent or greater efficiency (and coming in a recycled-materials box), Hiper's **HPU-4M780** 780-watt power supply should power almost any conceivable high-end rig. (It's certified for use with dual GeForce 8800 GTX cards.) It features four independent 12-volt rails at 18 amps. And the supply's big assortment of power connectors and converters includes two new-style eight-pin PCI Express connectors; alternately, you can use adapters, plus two additional six-pin connectors, to power a Quad SLI configuration. Plus, at $139, this supply won't set you back too much of that other kind of green. *Hiper, www.hipergroup.com*

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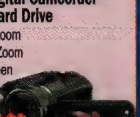

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The Right Midrange Desktop

BY SERGUEI SERVIANOV

If you think you'll be doing a little bit of everything, a midrange PC is the way to go. Here's how to find a model with enough power to keep you computing long into the future—without emptying your bank account.

SHOPPING SPECS

PROCESSOR

Consider CPUs that are a couple of steps down from the fastest to get the power you need at a good price. Look for at least a dual-core chip like Intel's Core 2 Duo or AMD's Athlon 64 X2, which features two individual processing cores on a single CPU. This will help ensure solid Windows Vista performance.

GRAPHICS

Get a discrete graphics card with at least 256MB of its own memory, especially if you want to get the full Windows Vista 3D experience. If you plan to do some video editing or serious gaming, look for a beefier card with 512MB of graphics memory.

MEMORY

The more the better: Get as much as your budget allows. Most midrange PCs come with 2GB, or sometimes 3GB, of RAM.

DRIVES

Opt for two hard drives of at least 160GB apiece, configured in a RAID Level 1 array to ensure your data is always backed up. If you have a large video or digital-music collection, you should future-proof your purchase by considering a higher-capacity drive (500GB or more). As for optical drives, two (CD-RW, DVD-ROM, or rewritable DVD) are better than one. If you can afford only one drive, make it a DVD±RW, which should cost about $40 more than a CD-RW.

3 GREAT BUYS

GOOD

HP Pavilion Slimline S3330f ✓
(www.hp.com, $949)
The Pavilion Slimline S3330f packs lots of multimedia goodness into its diminutive frame, despite its sub-$1,000 price tag. It may not be the fastest system around, but if you're in the market for a compact desktop system with top-shelf desktop entertainment components, this little box is hard to beat.

BETTER

Dell XPS 630
(www.dell.com, $1,249)
Dell has jumped on the trend toward mainstream gaming machines—and its first effort is a winner. The highly customizable XPS 630 is the best example we've yet seen of an everyday, affordable desktop that also excels with gaming, thanks to its nVidia GeForce 8800 GT graphics card.

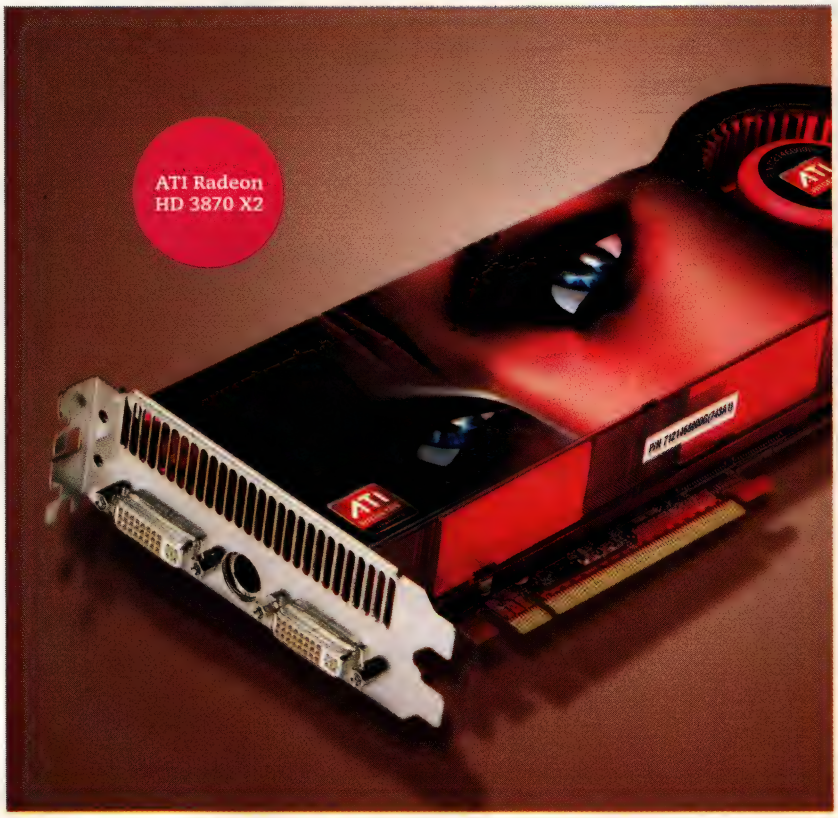
BEST

Apple iMac ✓
(www.apple.com, $1,499)
Apple's latest iMac is a silver-and-black all-in-one beauty. This iteration has a solid configuration (Core 2 Duo processor, built-in 20-inch LCD), excellent features, and good performance, making it a viable choice for anyone looking for a space-saving, eye-pleasing, highly capable desktop.

✓ = Editors' Choice

The Right Graphics Card

BY SERGUEI SERVIANOV



Whether you want to play the latest 3D games, improve high-def video playback, or just enjoy Windows Vista in all its visual glory, a new graphics card could be the perfect upgrade. Here's what you need to know to pick the right one.

SHOPPING SPECS

CHIPSET

Two camps dominate when it comes to 3D graphics: ATI and nVidia. The two companies manufacture chipsets for all types of users, from casual upgraders to hard-core gamers. At press time, cards based on ATI's Radeon HD3870 and nVidia's GeForce 9800 GX chipsets were the top performers.

GRAPHICS MEMORY

Discrete graphics cards have dedicated memory, unlike integrated-graphics solutions, which share main system RAM with other system components. More memory means better performance, improved 3D texturing, and higher display resolutions. Look for a minimum of 256MB—or 512MB if you're an avid gamer.

INTERFACE

If your desktop isn't new, its motherboard may use an AGP slot to accept a graphics card. Newer PCs feature a PCI Express (PCIe) slot. To ensure compatibility, find out if your motherboard is built for AGP or PCIe before you make your purchase. Also, if you're looking to upgrade a PC with integrated graphics, make sure the motherboard has a slot for a dedicated graphics card.

MULTI-CARD SUPPORT

Some nVidia GeForce chipsets support Scalable Link Interface (SLI) technology, allowing you to link two or three like cards together. ATI's similar dual-card solution is called CrossFire. In either case, the cards split video duties between them, accelerating graphics performance. Your motherboard must support the appropriate multi-card technology, however, so check before you buy.

3 GREAT BUYS

GOOD

ATI Radeon HD 3650*
(www.amd.com, $99)
The Radeon HD 3650 is a solid choice for those who want an inexpensive graphics card with good all-around performance. Though its 3D gaming performance isn't impressive, its excellent HD video-playback quality and flexible output options make it a good option for those who don't want to spend over $100 on a video card.

BETTER

Asus EN9600GT ✔
(usa.asus.com, $189)
Based on nVidia's new GeForce 9600 GT chipset, the EN9600 GT is a welcome, affordable addition to the GeForce family. It offers very good gaming performance with the details cranked up, even at moderate to high resolutions, and a level of 3D performance that until recently cost a lot more. (See review on p. 17.)

BEST

ATI Radeon HD 3870 X2*
(www.amd.com, $499)
The Radeon HD 3870 X2 is exactly what the name implies: Two Radeon HD 3870s on a single board, which offers gamers the type of performance previously only available by linking two cards together. The result is one of the fastest graphics cards you can buy at the moment.

*Third-party versions of ATI cards are also available and usually appear on the market before ATI's.

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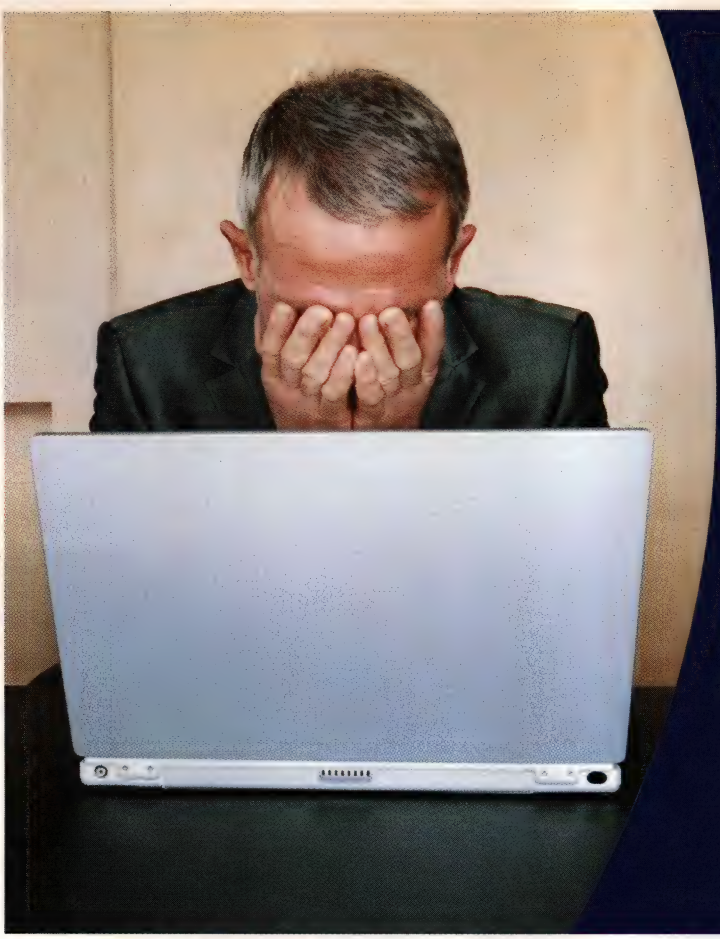

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(geek//:speak)

by MATTHEW MURRAY

What is the *Registry?*

On Windows-based computers, the Registry is a database that contains information and settings for all the system's hardware, software, and users. It's divided into keys (where information is stored), values (what the information is), and hives (collections of keys).

Whenever you install a new piece of hardware or software in your computer, Windows inserts this information into the proper hive, key, and value in the Registry for the next time you boot up your system.

Because of the range of information it stores, the Registry can get very large. It can also develop problems: Keys and values may not be properly removed during a program uninstall, or their deletion may cause the Registry to become fragmented (see "Tech Terms" at right) and run slower than it should.

Many Registry fixes and additional tweaks can be made by advanced users with the Windows Registry Editor. But we really, ***really*** *don't recommend this option if you're not sure what you're doing. You can cause permanent harm to your system if you delete the wrong key or change the wrong value.*

Luckily, you don't need to be an expert to make your Registry work better for you. Using a number of free software apps, you can safely maintain and tweak your Registry. We examine a few of them—as well as lots of other useful utilities—in "25 Downloads You Need Now," beginning on page 63.

TECH TERMS

DIGITIZER:
Used in tablet PCs to translate stylus movement in commands. The digitizer is overlaid on the LCD, creating an electromagnetic field. The electromagnetic field detects the stylus' motion and converts it to data points, which then display the "writing" or interact with software. (For more about tablet PCs, see "The Power of the Pen" on p. 70.)

FRAGMENTATION:
The state of a hard drive (or the Registry) when files once contiguously (or sequentially) stored get "gaps" from being changed or deleted. As a result, the system is forced to work harder (and more slowly) to find the pieces it needs. A defragmentation program can reorder files to speed up access. (See p. 50 for our review of Paragon Software's Hard Disk Manager 2008 Suite.)

SOLID INK:
A nontoxic form of ink developed by Tektronix and now used by Xerox that's neither liquid- nor toner-based. It's a stick of ink that, when melted, produces images on paper. Xerox claims it can print on a wider variety of media and is more environmentally friendly than traditional ink. Read about the Xerox Phaser 8560 in "The Fine Print" (p. 79) to learn more.

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